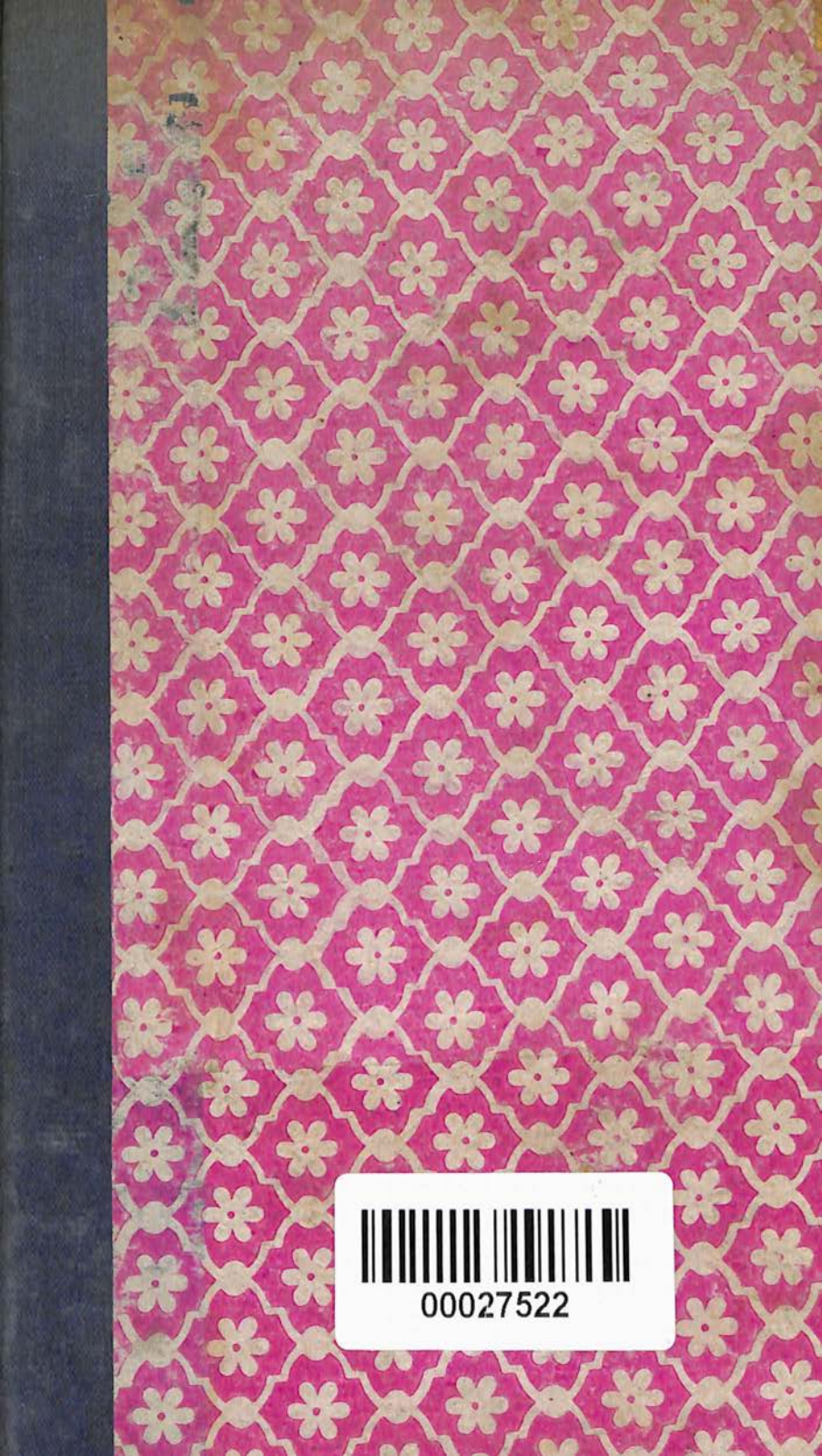
00027522

THE
ASIATIC SOCIETY OF BOMBAY
TOWN HALL, BOMBAY-400 023.

Digitized with financial assistance from the
Government of Maharashtra
on 26 June, 2018

00027522

VIEW

OF THE

RUSSIAN EMPIRE,

DURING THE REIGN OF

CATHARINE THE SECOND,

AND TO THE

27522

CLOSE OF THE EIGHTEENTH CENTURY.

By WILLIAM TOOKE, F. R. S.

MEMBER OF THE IMPERIAL ACADEMY OF SCIENCES AND OF THE FREE ECONOMICAL SOCIETY AT ST. PETERSBURG.

IN THREE VOLUMES.

VOL. III.

THE SECOND EDITION.

LONDON:

Printed by G. Woodfall, Paternoſter-Ro.. ;

FOR T. N. LONGMAN AND O. REES, PATERNOSTER-ROW.

1800.

VIEW

OF THE

RUSSIAN EMPIRE.

BOOK X.

The Fiſhery.

AS the chace has always been the excluſive occupation of particular nations of the ruſſian empire, ſo there are alſo tribes who maintain themſelves principally or alone by the FISHERY, and with whom even the eſtabliſhment of this trade forms a part of their civil conſtitution. It is naturally to be implied that this can only be the caſe with thoſe nations and ſwarms whoſe habitations border on the ſea, or compriſe large rivers abounding in fiſh, and whoſe civilization is as yet by much too little advanced for ſelecting more productive and ingenious ſources of livelihood. Some of theſe fiſher-nations follow this trade ſolely for their own ſupport; while others, as the Kozaks of the Don and the Ural, and the tribes on the ſhores of the Volga, carry on an important and lucrative

lucrative traffic with the products of their fishery. With most of the hordes and swarms of Siberia the chace and the fishery are equally important as the means of profit; the former is followed chiefly in summer, and the latter in the winter months. The same severity of frost which covers the coasts and the rivers with ice, and thus makes the fisherman idle, smooths the way to the huntsman through forests and over morasses, which in a warmer season would be utterly impassable.

For representing the various employments and objects of the fishery*, in some sort of method, we will treat of them according to the seas and districts in which this trade is principally carried on. Every sea, with the rivers that fall into it, has not only store of fishes and aquatic animals; but also the methods employed by the people for obtaining this property are as various as the nations and districts they inhabit.

* The employments of the people are so various and complicated, that it is not easy unconditionally to reduce them to distinct classes. Among the businesses which I here state as belonging to the fishery some might with equal propriety be reckoned to the chace, as, for example, the capture of the large marine animals, particularly those which are sought for chiefly or solely on account of their furs. These occupations I have sometimes comprehended under different terms. However, this distribution is of so little consequence, that the reader and myself may be spared the trouble of any apology to shew why one or the other classification has been preferred.

We

We ſhall make a beginning with the FROZEN-OCEAN and its bays and rivers. All the trades carried on by the Ruſſians on the Northern-ocean are of the greater conſequence, as the benefit of them extends over the whole empire, and becauſe the conſumption of the products thence obtained is general. The arctic waters, it is well known, breed the largeſt ſea-animals of the cetaceous genus, whales of ſeveral ſpecies, dolphins, &c *. for the capture of which ſhips are ſent out by various nations. Here, in the extremities of the north, are likewiſe engendered the numberleſs ſhoals of ſtock-fiſh, herrings, and other ſmaller kinds, ſupplying food to whole countries, and by the capture whereof more than one nation has been enriched. The advantages riſing from the fiſhery in theſe ſeas are indeed many and great, but the difficulties and perils attendant on it are not leſs either in number or magnitude, as the people here have not only to contend with the ſtrength

* The whale, the morſe, trichecus roſmarus, called by the Ruſſians morſch, by the Germans wallroſs, by the Samoyedes tiute, by the French vache marine, and by our engliſh navigators morſe. See voyages of capt. Cook. Linnæus in his ſyſtema naturæ denominates them, phoca dentibus caninis exſertis. The narhwal; the ſpermaceti whale or phyſeter macrocephalus: in the White-ſea and the Frozen-ocean are alſo the phyſeter catodon, which about Archangel is falſely called the beluga, but ought not to be confounded with the dolphin, the ſea-hog, delphinus phocana, &c

and cunning of the animals they are in queſt of, but alſo with the terrors of an inclement ſky, with raging ſtorms and tempeſts, and with enormous maſſes of ice that obſtruct their navigation, and threaten them every moment with deſtruction. As the huge ſea-animals are ſeldom met with in the White-ſea, and as, by reaſon of the inhoſpitable climate of theſe dreary ſhores the coaſts of the Northern-ocean are almoſt entirely deſtitute of human beings, the inhabitants of the governments of Archangel and Olonetz principally proſecute their fiſhery on Spitſbergen and Novaya Zemlia; theſe iſlands, therefore, as the chief ſcene of the northern fiſhery, deſerve to be briefly characteriſed, in order to render the accounts that follow more clearly intelligible*.

Both iſlands are completely uninhabited If by misfortune ſome poor mariners have been ſhipwrecked on their coaſts, it is probable, that by the ſeverity of the climate, againſt which they had not the means of defence, they have preſently after periſhed. Some engliſh and dutch ſeamen, who in the firſt periods of navigation in the Northern-ocean, wintered on theſe iſlands, for the moſt part loſt their lives, or endured inexpreſſible miſery. Yet the abode there is only dangerous to thoſe navigators who have been uſed to a more genial

* Nachrichten ueber Spitzbergen, im journal von Ruſſland, tom. iii. p. 397.

climate,

climate, and have not been able by proper clothes, nouriſhment, and motion, to reſiſt the attacks of the ſcurvy, which are ſo eaſily brought on by an indolent and confined life during the tedious winter. The ruſſian ſailors from Archangel and Meſen, who annually viſit both Novaya Zemlia and Spitſbergen, are more able to defy the horrors of the climate. They afford frequent examples of a very long ſojourn in the polar countries: a ſeaman from Meſen, Feodor Rachmanin, wintered ſix-and-twenty times on Novaya Zemlia, which he alſo viſited twice in ſummer-time, lived ſix winters on Spitſbergen, and ſailed five years ſucceſſively from the Yeniſſey to the ſhores of Siberia.

The extreme cold which reigns here the greater part of the year is the moſt piercing with a north wind; ſouth and weſt winds bring ſnow and rain. For about the ſpace of three months, Spitſbergen and the northern parts of Novaya Zemlia are ſhrouded in one uninterrupted night. To the Dutchmen, who in the year 1596 wintered on the north-eaſtern coaſt of this iſland, the ſun became inviſible on the third of November, and only appeared to them again on the four-and-twentieth of January, after having had a ſort of twilight for upwards of fourteen days. This long night is, however, ſomewhat cheared by the aurora borealis, which appears in its full magnificence and ſplendor only in the polar regions. During the

penetrable darkneſs, ſometimes for upwards of eight days together, tremendous hurricanes, with impetuous falls of ſnow and icy particles, raged with ſuch fury that the wretched hunters dared not ſtir a ſtep from their huts for fear of not being able to find them again. Through this deep polar night the ruſſian ſailors marked the paſſing days by the burning of lamps, which they filled afreſh with fiſh-blubber every four-and-twenty hours.

The principal objects of the ſea-chace about Spitſbergen and Novaya Zemlia are whales and morſes. For, though the Frozen ocean produces a multitude of other marine animals, which in various ways might be made ſubſervient to human induſtry, they ſeem to excite but little attention, or the capture of them is only an occaſional or accidental employment. Every year a ſhip goes from Archangel to winter at Spitſbergen, and at leaſt one, frequently more, to Novaya Zemlia. The inhabitants of Meſen, who cannot ſo well bear the expence of fitting out a ſhip for a winter voyage as the archangel merchants, navigate only in ſummer the coaſts of theſe countries.

WHALES abound not only in the higher regions of the Frozen-ocean, but they come in conſiderable numbers into the gulf of Kola; yet theſe uſeful fiſh, the products of which are ſo much ſought after that the French and Dutch ſend out whole fleets to the North-ſea for them, ſtill always

eſcape

eſcape the attention of the Ruſſians that dwell upon the coaſts. As the whale fiſhery, after the manner of carrying it on in the Eaſtern-ocean, will be deſcribed in the ſequel, we ſhall here only give an account of the capture of the MORSE, becauſe that toilſome and dangerous trade in the Northern-ocean ſeems to be the main buſineſs of the marine chace*.

The people who go out to catch the morſe are hired for that purpoſe by a maſter or ſhip-owner, who not only furniſhes them with the neceſſary veſſels but fits them out with proviſions, ſtores, and whatever they are likely to want on the voyage, but either agrees to give them a ſhare of what they take or pays them certain wages. The latter, however, ſeldom exceed five or ten rubles for the ſummer; a trifling ſum when we conſider the hardſhips, toils, and dangers attending this profeſſion. The morſe-catchers uſually take with them a year's proviſions, as they are often obliged to paſs the winter on board their ſhips. Every veſſel has an oven for baking bread and cooking their victuals, for the ſupply of which they take the needful ſtock of wood. The only drink they carry out with them is water, with which when they go on ſhore they prepare quas. — The time of departure varies according to circumſtances;

* Oſeretzkoffkoy's deſcription of the method of taking the morſe, in the new St. Peterſburg journal, 1783, vol. iv.

ſome ſet out at the beginning of ſummer, when the White-ſea is free from ice, others not till autumn, eſpecially if they intend to winter on the voyage. The greateſt peril to which they are expoſed at ſea, is that of being hemmed in by the driving maſſes of ice; in this caſe the ice by its force beats in the ſides of the veſſel, and the morſe-catchers are then reduced to the dreadful alternative either of being buried in the waves on the ſpot, or of getting on the fields of ice floating at the mercy of the winds, till cold and hunger put an end to their ſufferings. And yet it has happened, though very rarely, that ſome of theſe poor fellows have been brought alive to land on their flakes of ice.

When the morſe-catchers are happily arrived at the place of their deſtination, the firſt thing they do is to conduct their veſſels to ſome ſafe anchorage, where they generally find ſeveral little huts that have been conſtructed by their predeceſſors in this hazardous warfare, and then commit themſelves to the ſmall boats, of which every veſſel takes with it one or two to proceed to the conflict with the beaſts of the ocean. This is uſually done on the firſt fine day, becauſe then the morſes delight in going on the land or on the ice to repoſe; and beſides, they are at times ſtimulated to leave their native element for a length of time for the purpoſe of copulation, which buſineſs laſts with theſe monſters for a month or two, or to caſt their young,

young, or to reſcue themſelves from the bites of the ſea-lice, by which the morſe in ſummer is perpetually tormented, and from which they have no other means of eſcaping than by fleeing into an element which deprives theſe inſects of life. All theſe cauſes together collect them frequently on the beach or fields of ice in prodigious numbers. When the captors diſcover one of theſe multitudes, they muſt have the precaution to approach them againſt the wind, becauſe theſe animals have ſo fine a ſmell, that they perceive the approach of men with the wind at a great diſtance, and then immediately take to the water; whereas in the contrary caſe they continue lying undiſturbed, though they even ſee the boat advancing to them. Beſides, the morſe-catchers by this means have the advantage of diſcovering ſooner the place where their prey has couched; for theſe fat animals, eſpecially in ſummer, emit far round them a horrid ſtench.

When the captors have reached this formidable encampment, they immediately quit their karbaſſes or boats, armed with nothing but their pikes, cut off the way to the ſea from the morſes, and then pierce thoſe animals which come firſt to ſave themſelves in the water. As it is the way with the morſes to ſcramble over one another in their attempts to eſcape, from the numbers of the ſlain there ſoon ariſes a bulwark which effectually choakes up the paſſage to the living; and then the

captors proceed with the ſlaughter till they have left not one alive. It ſometimes happens that after ſuch an engagement ſo great are the heaps of the dead, that the veſſels can only contain the heads or the teeth; and the people are obliged to leave the fat or blubber and the ſkins behind.

But, eaſy as it is for the captors to conquer the morſe by land, ſo dangerous is the conflict with theſe animals in their own element. We have only to recollect that the morſe is commonly of the ſize of a large ox, and that, beſides their ſharp teeth, they are provided with two long ſtout tuſks, for judging how a ſea fight of this kind is likely to terminate. When any of the morſes eſcape into the water before they can all be killed, the captors leap upon the ice and fall upon the animals with harpoons which they ſtrive to ſtrike into their breaſts or their belly, and to each of which is faſtened a long cord. This done, they drive a ſtake into the ice, wind the other end of the long harpoon-ſtring round it, and are now drawn about, on the piece of ice on which they ſtand, by the animal till he has loſt his ſtrength, when they draw him upon the ice by the cord, and kill him outright. — But when the morſes lie ſo near to the water, that they can leap in ere the attack begins, then the captors faſten the cord, when they have thrown the harpoon, only to the head of the boat, which is then drawn by the huge animal ſo deep into the water that the ſailors muſt

all

all run immediately a-ſtern. The morſe having fruitleſsly endeavoured to get looſe from the cord, riſes erect upon the ſurface of the water and makes a furious attack on his perſecutors. In this he is ſometimes ſo ſucceſsful as to ſhatter the boat with his tuſks, or to throw himſelf ſuddenly by a proportionate leap into the midſhips. Then nothing is left to the crew but to jump overboard and to hold by the gunnel, till other morſe-hunters come to their aſſiſtance in this deſperate ſituation. — To mitigate the danger of theſe misfortunes the captors not only previouſly take all proper meaſures, but it is even laid down by laws and regulations what conduct every one is to obſerve during the voyage and in the actual encounter with the morſes. Each of theſe companies conſiſts generally of a maſter or pilot, two harpooners, two barrelling people, a ſteerſman, and ſeveral rowers, each of whom has his appointed duty.

Though the morſes ſpread from the Kurilly iſlands along all the ruſſian coaſt of the Northern-ocean, quite to Norway, Iceland, and Greenland*, this

* The elder Gmelin has circumſtantially deſcribed this vaſt extent of their haunts, in his travels, tom. iii. p. 165. They begin about the Kurilly iſlands, are found in the parts contiguous to Behring's iſland, and in general throughout the whole of the Ruſſian Archipelago, proceeding thence towards the Anadyr and the tſchuktſchian promontory, (where are found an aſtoniſhing quantity of morſe-teeth, which leads

this trade is the moſt productive about Spitſbergen and Novaya Zemlia, conſequently the morſe-hunters preferably go thither. Many of them paſs the winter on theſe inhoſpitable iſlands, in order to return with greater booty, as they then may purſue the white-bear, the rein-deer, and the ice-fox. In this caſe they build themſelves little huts for the winter, which at times are ſo buried in ſnow that nobody can come out of them. As no wood at all grows on theſe iſlands, the morſe-hunters muſt inevitably periſh with cold, were not the ſea to caſt a great quantity of drift-wood on ſhore; among which are often found balks fit for building houſes. From their way of living the ſcurvy is not dangerous here to the Ruſſians: they drink no ſpirits, but merely quas, and ſometimes they have even a vapour-bath in their huts. Beſides this they make uſe of the antiſcorbutic herbs that grow on theſe ſhores; they take care to provide themſelves with a ſtock of yellow mulberries; and they find a drink made from the tops of pine-boughs and of juniper very wholeſome. They drink, likewiſe, the warm blood of the rein deer, a remedy which they have probably learned of the

Gmelin to believe that they retire into theſe unfrequented regions for ſhedding their large old tuſks for young ones,) and are found in ſwarms all along the coaſts of the Frozen-ocean quite as far as Greenland. Herrmann's ſtatiſtiſche ſchilderung von Ruſsland, p. 254.

Samoyedes. — For the ſake of preſerving ſome ſort of ſocial order among them, which is doubly neceſſary in this dark and dreary abode, and in a ſtate of ſuch total ſeparation and helpleſſneſs, every company confers upon its ſteerſman the right to chaſtiſe the diſobedient and refractory; in which the reſt of the company, or, in caſe of an actual rebellion, all the other winter-huts that may chance to be there, afford him their aſſiſtance. — In ſummer the morſe-captors employ themſelves very frequently in collecting of eider-down.

The partition of the property, when the enterpriſers are returned home, is made in the following manner: the fitter-out of the ſhip takes one half-ſhare of the whole, leaving the remainder to the ſhip's crew, of which each receives his portion according to the agreement previouſly made. Diſproportionate as this reward may ſeem to ſuch toils and dangers, yet according to the ideas and wants of this claſs of men it is always ample enough to animate others to ſimilar riſques; and the uſe which theſe honeſt, laborious, and rude people make of their hard earnings, often obtained at the hazard of their lives, clearly ſhews that theſe ſacrifices are of no great value in their eyes. Like the engliſh and dutch ſailors in the eaſt india trade, who ſquander away in one week the gains of a two-years' voyage, the ruſſian morſe-captor reſigns his whole booty to Bacchus; and ere the produce of this hazardous

induſtry is arrived at the neareſt market, the farmers of the kabaks are ſharing the profits of the man that obtained it.

The products which are brought into the channels of commerce by the morſe-fiſhery are principally the blubber and the ſkin of theſe marine-animals. The captors uſually bring home the fat unmelted, whereby it loſes much of its goodneſs, and conſequently of its price; but this cannot be altered, as both the want of wood in the countries where the morſe is taken, and the haſte which the men are obliged to employ, allow them to do no better. When the fat is melted over the fire by theſe people at home, they uſually mix with it the fat of the ſea-dog or the beluga, and ſell it under the name of *vervannoye-ſalo*. — Of this oil is annually ſhipped from the port of Archangel from two to ten thouſand tons, the ton at ſeven pood; the pood at Archangel coſts a ruble and half and upwards. This oil is employed in ſoap-boiling, in the preparation of leather, and for the conſumption of lamps; it is likewiſe employed to various other purpoſes by different tradeſmen and mechanics.

The morſe-ſkins are hung upon poles, as they are taken out of the ſea, in the open air till they are become ſtiff, when they are prepared for farther uſe. Of them are made traces for carriages, horſe-harneſſes, &c. and from the cuttings excellent ſize for the paper-manufactories. A morſe-ſkin

coſts uſually three, four, or more rubles. — The morſe-teeth are tranſported partly to St. Peterſburg and Moſco, and partly likewiſe to Archangel; where, and in the diſtricts around it, they are wrought up into all the works for which ivory can be uſed. Here are made of them all ſorts of elegant little boxes and caſkets of open work in a variety of taſtes, fan-ſticks, knife-handles, card-counters, cheſs-men, &c. which according to the neatneſs of workmanſhip and the whiteneſs of the teeth bear a different price. The thickneſs of theſe teeth renders them ſo heavy, that ſometimes five of the large tuſks will weigh more than a pood: they are as white as ivory, having this advantage over it, that they are firmer and will not ſo ſoon become yellow. A pood of the largeſt morſe-teeth coſts upon the ſpot twenty or thirty rubles.*

Beſides theſe marine animals already mentioned, in the capture of which the inhabitants of the ſea-coaſts are principally employed, the Frozen-ocean, likewiſe, teems with the NARHWAL, the POTT-FISH, from whoſe brain ſpermaceti is pre-

* In the year 1793, the export by ſea from all the ports amounted to: of train-oil, 43,504 pood in value 106,332 rubles; of mammoht's bones and morſe-tuſks, 190 pood, value 6136 rubles. From Archangel in particular: train-oil, 41,830 poods, value 101,713 rubles; mammoht's bones and morſe-tuſks, 45 poods, value 1463 rubles.

pared, the SEA-DOG*, DOLPHIN, SEA-HOG †, HAY-FISH ‡, ſea-cow §, the ſea-bear ||, the ſea-lion ♪, the ſea-otter θ, and many others, which animals are caught either for their ſkin or their blubber. The ſea-dogs are commonly moſt numerous in the Frozen-ocean, and often proceed into the White-ſea; there are even ſeveral ſpecies of them, at leaſt thoſe which are known about the Oby, the Yeniſſey, and the Lena, under the ruſſian name of *morſkoię ſaez* (ſea-hare), are entirely different from the common ſort. Theſe have a ſilver-white gloſſy ſkin and long woolly hair. — The Samoyedes watch for the ſea-dogs, or ſeals, generally in the ſpring-ſeaſon when theſe animals repair to the mouths of the rivers and get out of the water through holes which they have made in the ice by their breath. They uſually lay near the aperture a board to which a rope is faſtened. The Samoyede, lurking behind a block of ice, as ſoon as he ſees the ſea-dog fairly out, draws the board over the opening; the animal's retreat being thus cut off, he is killed without trouble η. Another remarkable animal in theſe waters is the white-fiſh π, known to the Greenlanders under this name, but to the Ruſſians by that of BELUGA, and

* Phoca vitulina. † Delphinus phocana. ‡ Squalus carcharias. § Trichecus manatus. || Phoca urſina. ♪ Phoca leonina jubata. θ Lutra marina.

η Pallas, travels, tom. iii. p. 91.

π Phyſeter cantodon.

which

which profeſſor Pallas, by way of diſtinction, calls the ſea-beluga. He belongs to the race of the dolphin, is not above three fathoms long, and is everywhere found in the Frozen-ocean. Theſe animals keep together in ſhoals, and are driven upon ſhallow places in the White-ſea and the gulf of the Oby by the Samoyedes, who aſſociate into numerous companies for that purpoſe, and there harpooned. Their fleſh is black, but over the whole body is drawn a white rind, out of which a very pure fat may be prepared *. According to Guldenſtædt's opinion this ſpecies of fiſh might be beneficially uſed for obtaining train-oil. That the morſe-catchers employ it in preparing the train-oil of that animal has already been remarked.

The fiſhery on the ſhores of the Frozen-ocean is, from its moſtly inacceſſible coaſts, and from the want of people in theſe waſte regions, not very conſiderable. In many places detached fiſhing-parties come to fiſh with nets at high-water. — Much more productive is the fiſhery on the coaſts of the White-ſea which ſkirt the government of Archangel. Among the principal objects of it are COD, NAVAGA †, PLAICE, SOALS, STOCK-FISH, and HERRINGS. The peculiar place where the ſtock-fiſh and kabelyau ‡ are caught is the left ſide of the White-ſea, from its junction with

* Pallas, travels, tom. iii. p. 84—87.

† Gadus callarias. ‡ Gadus morrhua.

the ocean to the coaſts of Norway. The fiſhermen remain from ten to fifty verſts diſtant from the ſhore; at preſent, however, as the fiſhery here has greatly declined, they are obliged to go out far above Kola *. The herring-fiſhery in the White-ſea and in the Northern-ocean was formerly a monopoly of the crown; but by an ukaſe of the year 1776, it was laid open to every one. The herrings caught here are moſtly tranſported ſmoaked, dried, and ſalted; but ſeldom retain ſo good a reliſh as to be compared with the beſt that come from abroad, either becauſe they have not the true method of ſalting them, or from the want of good ſalt. Ruſſia buys yearly to the value of more than 100,000 rubles foreign herrings; the beſt of them which are indiſpenſable to the luxury of the table, amount however to but a ſmall quantity. The greater part of theſe fiſh are but of moderate quality and are imported for the demands of the common people in Livonia, Ingria, Finland, and the white-ruſſian governments which might juſt as well be ſatisfied with home-produce, if, beſides ſeveral other kinds of fiſh, they would take the OMUL † of the ſouthern ſeas, in greater quantities, and ſalt them properly. This fiſh is the native of the Frozen-

* Lepekhin's journal of travels through various provinces of the ruſſian empire, tom. iii. p. 215.

† Salmo autumnalus, PALL. Corregonus artedi, LEPEKHIN.

ocean,

ocean, where they are found in prodigious quantities and very frequently taken, proceed not only into the White-ſea, the Yeniſſey, and the Oby, but alſo go out of the Eaſtern-ocean into the rivers of Kamtſhatka. Through the Yeniſſey they come not only by means of the Tunguſka into the Angara, but alſo in the Tuba and the great lake Madſhar on the ſayane mountains. Finding in the ſouthern lakes a deep and ſpacious water, they do not return to the ocean, but multiply in the vaſt pieces of water, and in ſo much the greater abundance as here they are not perſecuted by any fiſh of prey. In all the regions lying beyond the Baikal, this ſhoal-fiſh is in high eſtimation, becauſe, without it, the inhabitants, whoſe ſtony rivers have no ſtores of fiſh, would ſuffer from the want of a ſupply for their faſts *. It is alſo reckoned a great dainty by the people who dwell on the ſhores of the White-ſea. It is caught moſt plentifully here in the little lakes which have communication with the rivers. For this purpoſe the fiſhermen make a ſort of hedge in them of ſtakes interwoven with bavins of bruſhwood, running in a zig-zag direction, and terminating in a deep reſervoir. Into this the omuls enter in ſuch vaſt quantities, that the fiſhermen have only to go with their canoe into the pool and ſcoop them out with tubs made into ladles †.

* Pallas, travels, tom. iii. p. 79. 289.

† Lepekhin's travels. tom. iii. p. 228.

This great wealth of the Northern-ocean in marine-animals and fiſh of various ſorts, allows us to expect not fewer in the rivers which flow into it. Beſides ſeveral of the ſpecies we have named, the Dvina and the Petſhora particularly abound in that excellent fiſh called by the Ruſſians SIGHI and SALMONS, the latter being particularly reckoned the fatteſt and beſt flavoured of all northern Ruſſia, and therefore are tranſported frozen or ſalted to a great diſtance round the country. — None of all the ſtreams of the empire poſſeſs ſuch hoſts of migrating fiſh, paſſing out of the ſea, as the Oby. In this river are not only a variety of fiſh known nowhere elſe, but alſo great plenty of STURGEONS, STERLET, WHITE-SALMON, PIKES, MURÆNA*, QUOBBE†, and a multitude of other fiſh, the ruſſian or oſtiak names whereof without an explanation, would be perfectly unintelligible. The migrating fiſh come near Bereſof about the month of June, and then proceed higher into the Irtyſh, the Tobol, and the Tom. From theſe expeditions, during which the fiſh ſhed their ſpawn, moſt of them return half-grown, and thoſe with weakened roes go in September, when the ice begins to form, into the lower region of the river Oby, and repair again in winter into the ocean before the rivers become putrid

* Muræna Helena, Salmo albula, PALLAS.

† Quappe in german. Gadus lota.

under

under the ice *. The fiſhery in the Oby is, particularly in the inferior region, chiefly carried on by Oſtiaks and Samoyedes, but in the ſuperior purſued by every one who chooſes. The ſpring fiſhery commences not till June, when the waters are clear of ice and the fiſh come by myriads into the lakes, gulfs, and collateral rivers; for in the main river itſelf it is impoſſible to fiſh by reaſon of its breadth and depth, or only in very ſhallow places. Beſides the drag-nets which are of uſe from June till ſome time in October, the Oſtiaks have ſtill various other methods of fiſhing. The moſt curious is that with a net called by them kilidan, and is drawn like a purſe. The lower rim of it is extended by a ſtick, to which in the middle a ſtone is tied that it may lie flat on the ground. To the ſtone a cord is previouſly faſtened, paſſing through a ring at the upper rim of the net which has a rope inſerted round it, and by which the fiſherman ſitting in his canoe holds the net. Somewhat above the upper rim ſeveral ſtrings are fixed to the net which the fiſherman takes between his fingers, and by which he feels whenever fiſh come into the net.

* The putridity of this running-water under the ice proceeds from no other cauſe than the ſwampy quality of the ground and water of theſe rivers, their ſluggiſh current and their impregnation with terrene ſalts. The putrid or dead water does not recover its freſhneſs till ſpring, when the maſs of it is increaſed by the melted ſnow.

In this caſe he immediately lets go the ſtrings, and draws up the net by the rope; by which action the croſs-ſtick ſhuts the lower aperture of the ſack hanging downwards, and incloſes the fiſh. With theſe ſack-nets, ſturgeon, white ſalmon, quobbs, and ſuch kinds of fiſh are caught from June to September.

It is eaſy to conceive, that a people who make the fiſhery their principal occupation muſt have contrived a great variety of means, ſome of them ingenious, for purſuing this buſineſs at the leaſt expence of time and trouble. Beſides the purſe-nets juſt deſcribed, and the fiſh-weels and wears that are everywhere in uſe, the Oſtiaks and Samoyedes cuſtomarily go to fiſh in ſhallow places in the night-time, by the light of burning birch-bark, which they ſtick on poles. In the ſecondary rivers moſt northward, the Samoyedes as ſoon as the ice is ſtrong make openings in it, over which they build huts, and ſink in the water little lure-fiſh, cut out of wood, by lines made heavy with ſtones, by means of which they eaſily pierce with forked-ſpears the fiſh who are led to them by greedineſs or curioſity. They alſo make little wears acroſs ſuch rivers, let through the aperture white tree-bark ſunk by ſtones to the bottom, and ſpear the fiſh as they play about, which are then plainly viſible. — By theſe and many other inventions the Oſtiaks and Samoyedes are enabled to ſupply themſelves and the Ruſſians their neighbours all the

the year round with fiſh. In ſummer they have ſuch a great ſuperfluity of ſturgeon alone, which are often a fathom long, and yield two pood of kaviar, that they throw away the ſmaller kinds of fiſh. The ſturgeon, therefore, in Bereſof is never more than forty kopeeks a pood, and the fat ſcarcely fifty kopeeks, never above a ruble*.

The Irtyſh contains almoſt all the fiſh which are met with in the Oby, and the fiſhery is here likewiſe very conſiderable. Its ſterlet, next to that of the Oby, is the largeſt of any in the empire, being at times above an arſhine and half in length. Quobbs are likewiſe in the Irtyſh in ſurpriſing numbers, and they are caught not unfrequently of the length of two arſhines. But ſhads, belugas, and ſevrugas are neither in the Irtyſh nor in the Oby. Of the ſalmon ſpecies here is only the white ſalmon; pikes are very rare. — The Yeniſſey and the Lena, as well as moſt of the rivers that fall into them, have likewiſe an exceeding great abundance of excellent kinds of fiſh; but as they moſtly reſemble thoſe which have been already named, they may be paſſed over here.

The fiſhery on the coaſts and the iſlands of the EASTERN-OCEAN is extremely remarkable for the multitude and quality of its objects and in

* Pallas, travels, tom. iii. p. 79—84.

regard to the employment it occaſions. In thoſe diſtricts where agriculture and the rearing of cattle are impracticable from the ſoil and the climate, and european cultivation can only be proſecuted in particular places as a frequently unſucceſsful attempt, no other purſuit is left for the thinly ſcattered and partly ſavage inhabitants than the chace and the fiſhery. The latter principally affords them the greater part of their neceſſaries of life; and, parſimoniouſly as Nature has dealt out to them the reſt of her gifts, ſo richly has ſhe ſupplied the waters with the choiceſt, moſt uſeful, and beſt-taſted kinds of fiſh.

To this claſs primarily belongs in more than one reſpect the WHALE, the mention of which has been hitherto deferred, though found alike in the Frozen-ocean. About the coaſts of Kamtſhatka this huge ſea-animal is ſo common, that on the reflux of the waters they are often ſeen ſleeping on the ſhore, or purſuing the fiſh quite into the harbours. Neither is it here a thing unfrequent for the whales to be thrown dead on dry land, which the Kamtſhadales regard as a lucky accident, as the capture of them is attended with great danger and numerous difficulties. From the ſouthernmoſt cape of Kamtſhatka the inhabitants go out to ſea in baidars or little canoes, on the ſearch for ſleeping whales, which they wound with poiſoned darts, and leave it

then

then to their good fortune whether the animal be thus killed and caſt upon their ſhores. In the northern diſtricts of this peninſula the whale is taken in large nets made of thick hardened thongs of morſe-hides, and ſunk in the water at the mouth of the gulf with heavy ſtones. When the animal is entangled in it, the ſtruggles he makes to get free generally coſt him his life; and then he is towed aſhore by the captors, and ſlain amidſt a variety of religious and fantaſtical ceremonies. But of all the tribes of theſe parts none are ſo addicted to the whale-fiſhery as the Tſchuktſchi, and the methods they uſe come neareſt to thoſe of the Europeans. They row to ſea in very large baidars, the crew conſiſting of eight or ten people; when they meet a whale, one of theſe veſſels bears up to him, whence the harpooner throws a ſpear into his body, leaving the iron or wooden hooks ſticking in him while the ſhaft of the ſpear is drawn home. To the hooks a cord is faſtened, ſeveral hundred fathom in length, and lies coiled up in the bottom of the canoe. This cord is held faſt by the harpooner, letting it out according to the violent motions of the enraged animal: if he plunge, he has rope enough; if he riſe the holder draws it in, who can always ſee which way the whale takes by means of a bladder attached to the cord. When the whale riſes for the firſt time, the ſecond canoe purſues him in like manner; and this is repeated by ſeveral veſ-

ſels,

ſels, till they have altogether ſufficiently fixed and fatigued him. Then they ſuddenly ſet up a violent ſhouting, at which the raging animal is ſo confuſed that he makes for the land, and throws himſelf with amazing force upon the ſhore, where it is afterwards very eaſy to kill him quite. This method is in general practice on moſt of the iſlands of the ruſſian Archipelago. The Tſchuktſchi rely ſo much upon their courage and dexterity in this buſineſs, that they only take the trouble to carry away the fat of the whale they have taken.

The uſes made on the ſhores of the Eaſtern-ocean of the products of this capture are curious and manifold. The fleſh of the whale, though ſo hard and coarſe, will not keep long; it is therefore either immediately conſumed, or hung up in the air to dry. The ſkin is ſeparated from the lard, ſcraped, ſmoaked, and, to make it ſupple, beaten; it is wrought into cords and ſhoe-ſoles, which are ſo ſtrong that they never wear out or become unſerviceable. The fat is laid in pits filled up with hot ſtones, purified from the blubber, and then yields a well-taſted lard. The blubber, which is good for melting as well as for lamp-oil, is poured into the cleanſed inteſtines, which are uſed inſtead of barrels or caſks, and in which they generally keep liquids. With the whalebone the Kamtſhadales ſew their baidars together, or they make fiſhing-nets, fox-traps, and

and water-caſks of it. Of the bones of the lower jaw they make under-lays to their ſledges, knife-handles, and rings for their dog-harneſs. The ſinews ſerve them for all the purpoſes of pack-thread, and the vertebræ of the back-bone are uſed as mortars for pounding*.

The Eaſtern-ocean contains, beſides the whale, a conſiderable number of other large and remarkable marine animals, of which, however, we ſhall only notice ſuch as by the capture of them employ the induſtry of the natives, and are uſeful to the purpoſes of life. Among theſe we may particularly reckon the ſea-bear, the ſea-lion, the ſea-cow, and the ſea-otter, all natives of that ocean, and of which, as the natural hiſtory of them is but little known, we ſhall at the ſame time give a ſhort deſcription†.

The SEA-BEAR appears in troops in the Eaſtern-ocean, principally between the kurilly and the aleutan iſlands. The largeſt of theſe animals are ninety engliſh inches in length, and weigh eighteen or twenty pood. They reſemble no land-animal more than the bear, excepting only the feet, and the hinder part of the body, which terminates in a groteſque figure. What is more ſin-

* Steller's beſchreibung von Kamtſchatka, p. 98—104.

† Steller's ausfuhrliche beſchreibung von ſonderbaren meerthieren. Halle 1753.—Nov. comment. acad. Petropol. tom. ii.

gular

gular in the ſtructure of theſe animals is their finny feet, having not only joints and toes, by which they are enabled to go on ſhore, to ſit on their breech like the dog, and to uſe their paws in various ways, but likewiſe by means of the web between their toes, to ſwim with equal eaſe. — The manners of theſe animals are ſo peculiar and extraordinary that the account of them would be deemed a fiction, were it not accredited by the teſtimony of a ſagacious and learned obſerver. The affection of the mother for her young is exceedingly great; and they in return endeavour to divert her by various kinds of frolick-ſome play. On ſeeing theſe gambols, it ſeems as if they were exerciſing feats of wreſtling; one ſtriving to give the other a fall; and if the father comes up growling, he drives the wreſtlers aſunder, coaxes the conqueror, and even tries himſelf to throw him to the ground: the greater the reſiſtance ſhewn by the latter, the more he gains the love of the parents, to whom, on the other hand, their ſlothful or timid children, appear to give but little joy. Though polygamy prevails among the ſea bears, and ſome of them have as many as fifty wives, yet every one watches over his offspring with uncommon jealouſy, and is exceſſively furious if a ſtranger come too near them. Even when they lie by thouſands on the beach, they are always divided family-wiſe into companies, and in like manner they ſwim toge-

ther

ther in the ocean. The aged, who no longer have any wives, live ſolitary, and are of all the moſt grim; theſe frequently paſs a whole month on the ſhore in ſleep, without taking any food: but whatever approaches them, whether man or beaſt, they fall upon with the moſt outrageous fury. The ſea-bears at times wage bloody wars together, the uſual ground of hoſtility being either the females or a good couching place. When two are contending againſt one, others come up to aſſiſt the weaker party; and during the combat, the ſwimming ſpectators raiſe their heads above the water, and calmly look on for a length of time, till they alſo find a motive for mingling in the fight. Sometimes theſe conflicting armies cover a tract on the ſhore of two or three verſts, and all the air reſounds with their dreadful yells and growlings. It often happens that the combatants make an amiſtice for an hour to recreate their forces, during which they lie beſide one another without any danger; then both parties ſuddenly riſe up, each takes its place, and the battle begins anew with redoubled fury. This goes ſo far, that they purſue one another into the ſea, when thoſe of the victorious party drag their enemies back to land, and put them to the torture of their bites ſo long, till at length they lie faint and exhauſted, and finally periſh by the talons and beaks of the ravenous birds of prey that are hovering round. — The authority with which

which the huſbands rule over their wives and children is frequently diſplayed in a very tyrannical manner. When the wives, on being attacked by the hunters, abandon their cubs from affright, and theſe are carried off, the huſbands immediately ceaſe from purſuing the common foe, and turn upon the mother, as if to demand an account of what is become of their offspring. Then ſeizing them with their teeth, daſh them with violence againſt the rocks; the wives, ſtunned with the blows, creep and crouch at the feet of their deſpots, and careſſing them, ſhed abundance of tears. While the huſband continues to feel his vexation, he goes growling to and fro, and rolling his eye-balls, juſt as the land-bears are wont to do; but when his rage is abated, he then begins alſo bitterly to weep for the loſs of his young.

From June till the middle of Auguſt the ſea-bears come aſhore, in order, like the land-bears in winter, by three months of ſleep and faſting to diſburden themſelves of their ſuperfluous fat. This is the hunting ſeaſon for them. The full-grown and aged are not eaſily frightened, but go boldly up to the men to fight them; yet whole droves of them will plunge all at once into the ſea from fear, as if ſeized by a panic, on any ſudden occaſion of alarm. On land they run with great ſwiftneſs; a man, therefore, who is purſued by them has no means of eſcape but by climbing

up

up a ſteep mountain, where they cannot follow him ſo faſt. The capture of theſe animals about Kamtſhatka is proſecuted moſtly at ſea with the javelins furniſhed with hooks above deſcribed, which quit their ſhafts. The wounded beaſt ſtrikes with the ſpeed of an arrow through the water, drawing after him the canoe; and rages till he has bled to death. The ſkins of the ſea-bears are of no great value; as their hair is black, thick, and rugged, and the hide very thick and harſh, they are only uſed like ſeal-ſkins for covering trunks and boxes. Below the long hair, cloſe to the hide, lies, as with the beavers, a fine wool of a black gloſſy colour. The ſkin of the young that are cut out of their dam, are far more beautiful, and among the Siberiaks are of great worth, as they make their whole dreſs of them.

The SEA-LION is not much unlike in ſhape to the ſea-bear; only he is twice as large and heavy: and beſides the male ſea-lion has a ſhaggy mane about his neck. Tremendous as the look of this animal is, and furiouſly as he defends himſelf in caſe of need, yet at the ſight of a man he takes immediately to flight, and ruſhes into the ſea. In this his proper element no hunter dares attack him; the uſual method is to fall upon him when aſleep. When a ſea-lion in this condition is luckily deſcried by a hunter who can depend upon his own ſtrength and fleetneſs

in running, he approaches the ſleeping animal againſt the wind, in order not to be betrayed by the ſcent, and then ſtrikes the before-mentioned hooked ſpear through the fore feet, while others are employed in winding the rope to which it is faſtened round a poſt driven into the ground. This done, the animal, who now cannot eaſily eſcape, is ſhot with poiſoned arrows or knocked on the head with clubs. They frequently do no more than wound him with poiſoned arrows, and then leave him to his fate; as the ſalt ſea-water aggravates the ſmart of his wounds, he haſtens ſoon back to the ſhore, where he then, dead or alive, becomes a prey to his captors. The chace of this animal implies ſo much courage and agility in the huntſman, that a Kamtſhadale, who has been ſeveral times ſucceſsful in it, paſſes for a hero, and all his life after is held in particular reſpect. The captors, not unfrequently go the diſtance of five-and twenty or thirty engliſh miles out to ſea in their canoes, made of the hides of marine animals and the bark of trees, on this perilous enterpriſe.

Tenderly as the ſea-bears love their young, ſo little inſtinct the ſea-lions ſeem to have for theirs; whereas the bloody conflicts of thoſe animals are alſo cuſtomary with them. They couch on the ſame place with the ſea-bears, who, from fear, reſign to them the beſt ſpot, and never interfere in their inteſtine broils, though the ſea-

lions

lions do ſo with them as often as an opportunity offers. — The utility of theſe animals is by no means trifling. The fat, the ſkin; and the fleſh of them are generally ſweet and well-taſted, and the webs of the feet yield a jelly which paſſes for a dainty among the Kamtſhadales. Of the hide they make leather and the thong-ropes which are uſed in the capture of theſe and other marine animals.

A third animal belonging to this collection is the SEA-COW, called by the Spaniards manati, and is found both on the eaſtern and the weſtern coaſts of America*. The largeſt of theſe animals are from four to five fathom long, and about the umbilical region where they meaſure moſt in girt, four fathom and a half. The head reſembles that of a buffalo, and is connected to the body by a ſhort neck. The fore-legs conſiſt of two joints, the extremity whereof bears ſome reſemblance to a horſe's foot, but is provided beneath with ſeveral ſhort briſtles, which the animal employs in ſcratching up the ſea-weeds that ſerve him as food from the ſtones. His back is like that of an ox; the great circumference of the belly declines at

* Both Pallas and Schreber agree that the ſea-cow here deſcribed has a great reſemblance with the manati of the Spaniards, yet that it ought to be conſidered as a peculiar ſpecies diſcriminated plainly by various characteriſtics. Neue nordiſche beytræge, tom. ii. p. 292.

once, but the tail is gradually thinner to the fins, which act inſtead of hind-feet.

Theſe animals love wet and ſandy places on the ſea-ſhore; they therefore couch in whole droves about the mouths of rivers, and are here ſo tame that they will ſuffer themſelves to be ſtroked and even ſtruck at. The males ſeem to cohabit with only one female; at leaſt a herd conſiſts generally of only a pair of old ones of different ſexes, of one grown up, and a ſmall young one. Their appetite is ſo inſatiable, that to feed it they conſtantly almoſt keep their head under water, and are little concerned for their ſafety. In their conjugal embraces they manifeſt an extraordinary tenderneſs, on which occaſion the female plays the prude, and not till after reiterated importunities at laſt yields as if forced to compliance. The attachment of the males to the females proceeds ſuch lengths that they ſubmit to the moſt certain danger of death, if the latter be taken; and it not unfrequently happens that they will ſtarve with hunger by the ſkeleton of their murdered companion. — The manner of taking theſe animals is with large ſpears barbed with iron, and faſtened to a long ſtout rope. The hunters row warily up to a drove, and the markſman, who ſtands in the fore part of the canoe, throws the barbed ſhaft at the animal, who thereupon is drawn a-ſhore

by means of the rope, by people placed there for that purpoſe. But as at leaſt thirty perſons are neceſſary for this employment, and the animal reſiſting with the utmoſt exertion of his ſtrength, the canoe follows him, and the captors endeavour to harass him with repeated wounds till he can no longer hold out. As ſoon as the ſea-cows in the vicinity perceive the danger of their aſſociate, they run up to his aſſiſtance. Some ſtrive to overturn the canoe with their backs, others throw themſelves athwart the rope, trying by that means to break it aſunder, or they beat about with their tails in hopes to draw out the hooks from the ſkin of the wounded beaſt, in which too they ſometimes ſucceed.

The thick and ſtrong hide of theſe animals is employed by the Americans for ſhoe-ſoles and belts; the Tſchuktſches ſtretch them out by ſticks and make uſe of them as canoes. The fleſh of the ſea-cow is indeed more coarſe and fibrous than beef, but when boiled it is very like it in taſte, with this advantage, that even in the hotteſt weather it does not eaſily ſpoil; the fleſh of the young calves is, however, far more tender. The fat under the ſkin, which ſurrounds the whole body to a hand-breath, is white and fluid, ſmells and taſtes very agreeably, and yields, when boiled, a butter reſembling in taſte the oil of almonds. As the multitude of theſe animals about Kamtſhatka is exceſſively great in general,

and one of them weighing about two hundred poods, or eight thouſand pounds, this nouriſhment might be alone ſufficient to ſupply all the inhabitants the whole year through with wholeſome and well-taſted meat.

The SEA-OTTER, wrongly called the kamtſhadale beaver, differs from the river-otter only in this, that he lives in the ſea, that he is about half as big again, and approaches nearer to the beaver in fineneſs of hair. There is no doubt of its being an american marine-animal, and only a ſtranger on the coaſts of Aſia, where it dwells in what is called the Beaver-ſea from the 50th to the 56th degree of north latitude. It is in length uſually five and its circumference in the thickeſt part of the body is three feet; the largeſt of theſe animals weigh from about ſeventy to eighty pound. Their fur, in length, beauty, blackneſs, and gloſſineſs of the hair, far excels the fur of the river-beaver. One ſuch fur will ſell at Kamtſhatka for twenty, at Yakutſk for thirty, at Irkutſk for forty to fifty, but on the chineſe borders in barter for eighty or a hundred rubles. The fleſh of this animal is tolerably palatable, and even the fleſh of the female is, contrary to the ſtated laws of Nature, the beſt ſhortly before and after the breeding ſeaſon. The food of the ſea-otter is crabs, conchyliæ, little fiſhes, ſome ſea weeds, and alſo fleſh. There is no manner of doubt that this uſeful animal, if

ſome

ſome people of ſpirit would go to the expence, might be brought into Ruſſia and there rendered tame, ſince they are as fond of living in lakes, rivers, and ponds as in the ſea. — In point of manners, there is no animal of all that we have mentioned ſo amuſing and agreeable as this creature ſo much ſought after for his fur. Their favourite manner of lying is family-wiſe together. The male careſſes the female with his fore paws, with which he can do every thing in the moſt ingenious ways; and the female plays with her young, and rejects the dalliance of the father with an affected coyneſs. Their love for their young is ſo great that they not only ruſh into extremities for their deliverance, but not ſeldom grieve to death at the loſs of them. On their flight they carry their ſucklings in their mouth, and drive the full grown before them. When they are ſo fortunate as to eſcape their purſuers, they deride them as ſoon as they are ſafe in the ſea with all manner of diverting tricks; one while keeping themſelves right on end in the water and jumping over the waves, at the ſame time holding the fore paw over the eye as if to ſhade it from the ſun while narrowly looking out for ſomebody; then lying flat on the back and ſtroking their belly; then throwing their young into the water, and fetching them out again. When a ſea-otter is cloſely preſſed, and ſees no means of eſcape, he ſcolds and grins like an angry cat; if he receive

a blow, he immediately makes himſelf ready to die; he lies on his ſide, draws up his hind-legs together, and covers his eyes with his fore-paws.

The Kurils in the ſpring-ſeaſon go out to ſea in leather canoes or baidars the diſtance of ten verſts and more for the capture of theſe animals. When they ſurpriſe a ſea-otter, they immediately ſhoot arrows at him; and, as the animal cannot keep long at a time under water on account of reſpiration, he preſents himſelf repeatedly at ſhort intervals to the attacks of his enemies. By the bubbles that riſe the hunters know which way he turns, and follow him in the veſſel. When at length exhauſted and breathleſs, he wiſhes to repoſe on the ſurface of the water, they kill him with a lance. — Sometimes the ſea-otters run into fixed nets, with which they are likewiſe caught; and then in deſperation it is common for them to bite and tear the fleſh from each other. Nothing can be conceived more terrifying than the chace of the ſea-otters on the floating ice, where the practice is to knock them down with clubs. The departure of the ice from the coaſts of the ocean is generally accompanied with tremendous tempeſts and ſtorms of ſnow; and yet the hunters do not forbear to go out even in the darkeſt nights in this purſuit. They run along the fields of ice, and jump without fear from one to the other, even when they are in agitation, now lifted up by the waves, and then falling as if going

to

to the bottom. Every captor has with him a knife, a pole in his hand, and ſnow-ſhoes at his feet which are furniſhed with hooks, in order to take hold of the ice, eſpecially when it has accumulated flake upon flake. As the ſkins muſt be immediately ſtripped off, the Kurils and Kamtſhadales perform this buſineſs, encompaſſed with danger and amidſt the cruſhing of the floating maſſes of ice, with incredible celerity. When fortune favours them they bring their booty aſhore; but they are frequently carried out to ſea upon the ice, and then they muſt leave it all behind to provide for their own ſalvation. The able practitioners reſcue themſelves by ſwimming; others faſten themſelves by cords to their dogs, by whom they are truſtily drawn to land. Theſe misfortunes, however, only befall them when the wind ſuddenly changes, for they ſeldom go upon theſe expeditions except when the ice is driving towards the coaſt. In favourable weather they run ſo far as to loſe ſight of land; ſometimes they even venture acroſs the channel that ſeparates the two firſt of the Kurilly iſlands.

Of all the animals of the Eaſtern-ocean no one is of greater importance to commerce than the ſea-otter, whoſe beautiful fur is everywhere highly eſteemed, and in China ſells for a very great price. As this animal forms the primary object of the fur-chace on the kurilly and aleutan iſlands, here will be the fitteſt place for giving ſome

account of this toilſome and dangerous, but alſo very lucrative branch of commerce*.

This important trade, which has hitherto been almoſt excluſively in the hands of the Ruſſians, dates its origin immediately after the firſt voyage of diſcovery by the famous navigators Behring and Tſchirikof in 1741, and has been ſo much extended ſince, that at preſent not only moſt of the iſlands and a part of the continent of America are viſited by ruſſian mariners, but even the inhabitants of theſe regions moſtly acknowledge the ruſſian ſovereignty, and conſequently pay their tribute in furs. The companies that carry on this trade are at the ſame time merchants and marine-hunters; for, as the furs, which are the aim and the emolument of their voyages, cannot be fetched away as from a public mart, the ſhips-companies muſt partly devote themſelves to this chace, and partly induce the iſlanders, by preſents and pledges, to grant them their concurrence. One of theſe ſhips-companies conſiſts of from fifty to ſeventy men, who divide themſelves on different iſlands in ſmaller parties, and therefore for their ſecurity avoid the moſt populous diſtricts. For the ſame reaſon a voyage

* Pallas, erlauterungen ueber die im œſtlichen ozean zwiſchen Sibirien und Amerika geſchehenen entdeckungen; in den neuen nord. beytr. tom. i. p. 291. Account of the ruſſian diſcoveries between Aſia and America, &c. by Mr. Coxe.

generally

generally takes up four or five years; that is, till they have got a ſufficient quantity of furs for freighting the ſhip, and will at leaſt doubly repay the fitting out of it, which uſually coſts between twenty and thirty thouſand rubles. Notwithſtanding that the expence is ſo conſiderable, the conſtruction of theſe veſſels, which are commonly two-maſted galleots, is managed with ſo much frugality, that they are generally built only of fir or birch timber, and put together almoſt without any iron, ſo that it is really aſtoniſhing how theſe ſlight veſſels can hold out at leaſt two voyages in theſe tempeſtuous latitudes. They are uſually equipped at Okhotſk, where, on account of the frequent ſupplies of ſtores and materials, they find it moſt convenient. With a very ſcanty ſtock of proviſions on board, the ſhip doubles the cape of Kamtſhatka in autumn, proceeding either direct to Behring's iſle and the Copper iſland, or previouſly to one of the harbours on the eaſtern coaſt. Here the crew, which muſt be compoſed of at leaſt one half Ruſſians, is completed with Kamtſhadales, who can be beneficially employed on account of their dexterity in hunting, and their robuſt conſtitution, with very poor nouriſhment. The ſhip is laid up during the whole winter on balks, and the people in the mean time are occupied in getting together a ſtock of dried ſea-cow's fleſh and the hides of ſea-lions and ſeals, which they either employ in making themſelves

themſelves canoes, or trade in them to advantage with the iſlanders. When the following ſummer is ſomewhat advanced the ſhip ſails to the iſland where they may expect to hunt with the beſt ſucceſs, and where the ſtock they have collected, with what they ſhall occaſionally acquire by hunting and fiſhing, will ſubſiſt them for three or four years in this ſtate of continual jeopardy and warfare; where with this wretched fare they muſt be every moment on their guard againſt the hoſtile attacks of the iſlanders, provide for the chace, and in caſe of neceſſity defend the heartleſs Kamtſhadales with ruſſian intrepidity. — Thoſe ſhips that proceed ſtraight to Behring's or the Copper iſland, winter there likewiſe, and wait for the droves of ſea-bears and ſea-lions. The fleſh of the latter, as well as of the ſea-cow, is collected as a ſtock of proviſion, and the ſkins are carried with them to the iſlands.

As ſoon as the mariners are come hither, they endeavour either by good words or by force, to get poſſeſſion of the children of the inhabitants, particularly the chiefs, as hoſtages; and when by ſo doing they think themſelves ſafe, they diſtribute among the natives fox-traps, nets for catching the ſea-otters, and ſea-lion ſkins for making canoes, in return for which they muſt find them in victuals and furs throughout the winter. One part of the furs they endeavour to keep as tribute, for which they give them a receipt; for the reſt

they

they compenſate the hunters with glaſs corals, falſe pearls, goat-hair, copper-kettles, hatchets, needles, and the like. In the ſpring they take back their traps and nets, and reſtore the hoſtages. The animoſity of the iſlanders is ſuch, that they can only venture to hunt or to go in ſmall parties, in places where they are ſure of their majority in numbers.

The main objects of theſe expeditions are the beautiful and coſtly furs of the ſea-otter, the black-fox, and the blue rock-fox; but beſides theſe many other furs are obtained. The greateſt part of the ſea-otter ſkins go to China, the reſt are brought to Ruſſia, and the crown, beſides its tribute in natura, receives the tenth of the value of the furs brought away. When a ſhip ſafely returns from a voyage of four or five years, the profit is uſually twice and often thrice as much, as the coſts of the enterpriſe.

For gaining a competent idea of the great profits made by theſe voyages we have only to peruſe the accounts by profeſſor Pallas of ſome of theſe maritime expeditions*.

Ivan Solovief, with his ſhip's company, ſailed in the year 1770 for the cape of Alaſka, belong-

* Vid. Aufzug aus dem tagebuch einer ſeereiſe, welche Ivan Solovief in den jahren 1770—1775 bis an die zum feſtenlande von Amerika gehœrige landſpitze Alaſka verrichtet; und bericht von einer im jahr 1772 angetretenen vierjahrigen ſeereiſe zu den zwiſchen Kamtſchatka und Amerika gelegenen inſuln.

ing

ing to the continent of America, and returned the 16th of July 1775 in the harbour of Okhotſk. Of the people that accompanied him, ſeventy-one in number, Ruſſians, Kamtſhadales, and Yakutes, only nine-and-thirty were left. Of the furs they brought with them, they delivered into the imperial caiſſe 89 ſea-otters, 104 black, 56 black-bellied, and 8 red-foxes. The company received 1833 ſea-otters of different qualities, 10 foxes killed in the ſpring, and 30 in autumn, 10 young rock-foxes, and 1204 red-foxes.

The ſecond ſhip's company caſt anchor in the river Kamtſhatka the 15th of September 1776. The tribute collected for the caiſſe during the whole voyage conſiſted of 79 old and 15 half-grown ſea-otters; moreover, 3 quite black, 16 dark-grey, 23 black-backed, 17 grey-bellied, and 6 common red-fox ſkins. The furs brought for the company, collected by the chace and by barter, amounted to 1890 large and half-grown ſea-otters, 220 quite young, 1517 beaver-tails; 319 black and deep grey, 431 grey-breaſted, 198 common red-foxes, 901 blue rock-foxes, and 1430 young ſea-bears, which were all, according to cuſtom, divided among the proprietors, and the tenth of them delivered into the caiſſe.

From theſe ſtatements is ſhewn, 1. The proportion wherein the ſeveral ſpecies of animals there mentioned, are found on the iſlands, and may

may be collected by the chace; it appears, that the elſewhere ſo uncommon black and deep grey foxes, compoſe nearly one-third of the whole number. 2. The profit ariſing from one of theſe voyages, as each complete ſea-otter ſkin, in the way of barter with the Chineſe, is worth at leaſt from 90 to 100 rubles, half-grown 40, a beaver-tail 2 to 4, a black or dark grey fox ſkin 5 to 40 and more, an ordinary fox ſkin 1 to 5, a rock-fox $1\frac{1}{2}$, and a young ſea-bear $1\frac{1}{2}$ to 6 rubles.

Though the Eaſtern-ocean, beſide the above-mentioned ſpecies, contains a multitude of other marine-animals, as, the ſword-fiſh, the morſe, the ſeal, the ſea-beluga, &c. the capture and uſes whereof are of no ſmall conſequence to the inhabitants of its coaſts; yet, to avoid repetitions, we ſhall paſs them by in ſilence. Ere we quit, however, theſe diſtant regions, we muſt take notice of the amazing abundance of fiſh, with which nature has endowed Kamtſhatka; and by which ſhe has in ſome meaſure atoned for her unkind dealing with the deſart and unfruitful ſoil of that peninſula*. Here, where the agriculture might as well be called gardening, and where they have not the moſt common domeſtic and country-animals, the inhabitants maintain themſelves almoſt ſolely by fiſhing, which affords them in general a great abundance, though neither the rivers nor the lakes have any peculiar

* Steller's beſchreibung von Kamtſchatka, p. 141—175.

ſorts

ſorts of fiſh. All the fiſh of Kamtſhatka come in the ſpring from the ſea, and proceed up the rivers in ſuch inexpreſſible multitudes, that they are ſwelled by the great influx, and overflow their banks with living waves. Towards evening, when the fiſh make a halt in their progreſs upwards, or on the falling of the water, the ſhores on both ſides are covered with the dead, diffuſing ſuch a ſtench that epidemical diſtempers might enſue were it not for the beneficent winds which are inceſſantly purifying the air. At the mouths of the rivers they are uſually taken out with tubs, and, inſtead of purſe-nets, which the firſt draught would tear to pieces, they make uſe of a ſort of bird-net. Even dogs and bears go fiſhing here, by placing themſelves on the margin and ſeizing the fiſh as they paſs by with their mouths or their paws.

All the fiſh that advance far up the rivers are of the ſalmon kinds, of which more varieties are found at Kamtſhatka than the natural hiſtory of the reſt of the globe can produce. The ſalmons and trouts are indeed generally admired for their excellent flavour, but the ſeveral ſpecies that are taken on this peninſula are preferred to all others in that particular. A remarkable circumſtance in the œconomy of theſe animals is, that they are begotten and born in the rivers, but are brought up in the ſea, and afterwards die in the rivers. Incited by the inſtinct to propagate their kind,

kind, they toil up the rivers in ſpring, burdened with milt and ſpawn, where they conſummate the buſineſs of multiplication and depoſit their eggs in the ſand. This done, they purſue their voyage, and having lived upon the proviſion they brought along with them, till it is all conſumed, they die*. The young fry ſwim in autumn to the ſea, remain there till their organic conformation is completed, and in the third year take their courſe up the ſame rivers in which they were engendered, in order to accompliſh the intentions of nature by their propagation and their death. Particularly intereſting is the remark which attentive naturaliſts have made, that ſeveral kinds of fiſh take with them into the rivers one of their family begotten in the former year, who keeps them company, till they have performed the work of procreation and emitted their ſpawn. They then proceed on, while the little one-year-old guide remains till November with his untutored brothers and ſiſters, whom he protects againſt other fiſh, and conducts into the ſea. — Each

* This is the caſe only in countries like Kamtſhatka, where the rivers are frozen for the greater part of the year, and do not afford the fiſh ſufficient nouriſhment; whereas in warmer ſtreams, the remoter ſources having a muddy and deep bottom with numerous water-inſects, they live there many years and propagate their ſpecies; only with this difference, that they come up from the deeps in ſpring, go farther up the rivers, and procreate at the mouths of other rivers and brooks.

ſpecies of fiſh has a particular and ſtated time for aſcending the rivers from the ſea, and one emigration is followed by another; only in Auguſt three or four kinds go up at once, but theſe never mix with one another, each keeping together in cloſe parties.

As the fiſh of Kamtſhatka are only caught for the conſumption of the inhabitants, and have never hitherto been made an object of trade, it would be needleſs to ſpecify the numerous kinds and ſpecies of them by name*. Nowhere is this plenty more beneficial than here, where the fiſh almoſt every where ſupply the place of bread; and, in various forms of preparation, conſtitute the whole ſtock of proviſions for the long winter. To prevent the diſtaſte that might enſue upon the uniform continuance of the ſame diet, the Kamtſhadales have found out various means, ſome of them curious enough, of procuring themſelves a change by a diverſity in the mode of preparation. The ſtock of proviſion moſt commonly as well as moſt eaſily procured conſiſts of

* Amongſt them, however, is the herring, which is exceedingly plenty in the kamtſhadale ſea, and ſo violently perſecuted by the whales, as to be obiged frequently to take refuge in the lakes and rivers. Theſe fiſh traverſe the bays and gulfs in ſuch amazing ſhoals, that at one draught, with a net of four-and-twenty fathoms, as many are taken as will fill four tons. They are as agreeable to the taſte as the dutch, and when ſalted keep as well. The Kamtſhadales never eat them, uſing them only to boil blubber from them.

four fiſh: they fill a large hole in the ground with them, ſtrew them over with wood aſhes, or lay them firſt in a ſharp alkaline lye, and cover the hole with leaves and earth. In this manner, which is cuſtomary with the Samoyedes and the Yakutes, they keep the fiſh the whole year through without putrifying; but the Kamtſhadales, thinking this method much too complex, generally leave their's to corrupt without lye, and yet find it delicious. The fiſh are almoſt as often dried in the air, to which end they are cut lengthwiſe in ſtrings, cleared of the bones, and hung up under a ſhed made for that purpoſe. This way of dreſſing their victuals recommends itſelf particularly to the ſlothful Kamtſhadales by the facility with which it is performed. Fiſh dried in this manner are the ſole proviſion which the Kamtſhadales carry out with them, and when it is pounded it affords a nutriment ſimilar to that of bread. Again, the fiſh are chopped to a kind of meal, with which they thicken their ſoup and make it more nouriſhing; the ordinary method of preſerving them ſalted, ſmoked, and frozen, is, however, only in uſe among the Ruſſians who live at Kamtſhatka.

We proceed now to deſcribe the fiſhery on the CASPIAN, the moſt important branch by far of this buſineſs in Ruſſia. Nowhere in the whole circuit of the empire is the fiſhery carried on ſo much in the groſs as here, and nowhere does it

afford ſo many objects of conſumption and commerce. This is not only in a great meaſure owing to its extraordinary wealth in excellent kinds of fiſh, but alſo to its commodious ſituation in the centre of the empire, facilitated by water communications, and the good method in which this trade is proſecuted. In fact, the fiſhery on the Caſpian, as Pallas obſerves, is in ſome reſpects as important to Ruſſia, as the herring, the cod, and the whale fiſhery, are to other maritime powers of Europe.

The fiſhery on the northern or ruſſian ſhores of the Caſpian, is partly let out to aſtrakhan merchants, whoſe great opulence is chiefly founded on it; it partly belongs, in virtue of antient privileges, to the uralian Kozaks, who not only claim that right on the river Ural, but alſo on a tract of coaſt extending ſeventy verſts in length, from the mouth of the Ural, to what is called the wealthy bay, in which the ſouth-weſtern collateral arm of that river falls. Of this latter we ſhall afterwards ſpeak in mentioning the Ural; at preſent our buſineſs is only with the fiſhery in general on the Caſpian, and particularly with the portion belonging to the crown, and let out to others*.

The Caſpian is uſually free from ice towards the latter end of March, which uſually covers the ſea to a great diſtance from the ſhore, and then immediately with April begins the fiſhery. This is

* Pallas, travels, tom. ii. p. 333—349.

undertaken

undertaken by ſeveral contractors, every one of whom has his particular ſtation or vataga in a different place, which commonly bears the name of the proprietor. At all theſe vatagas no care at all is taken about the ſmaller ſpecies of fiſh which are caught here as well as in the Volga and the Ural, and tranſported both dried and ſalted, to the inland parts of the empire; here, on the ſea, are only taken the ſeveral kinds of ſturgeon, namely, BELUGA*, STURGEON, and SEVRUGA†, and next to theſe SHADS§, and BARBEL. Every vataga is occupied by fifty or eighty, or up to a hundred-and-twenty men, moſt of whom carry on a ſeparate trade: here are alſo pilots, fiſhermen, ſalters, preparers of iſinglaſs and kaviar, &c. The vatagas have alſo their own veſſels of various dimenſions and conſtruction, in which they may venture out to ſea without the neceſſity of taking with them a great number of hands; again, at each of them is a galleot, for fetching proviſions and ſalt from Aſtrakhan, and for ſending away the fiſh they have taken. Adjacent to the buildings in which the people are quartered, ſeveral ſheds are built, where the roes are prepared, the iſinglaſs dried, and the ſtock of fiſh orderly kept. For preſerving the ſalted fiſh, deep and well-ſecured ice-cellars of conſiderable magnitude are dug under ground;

* Accipenſer huſo. † Accipenſer ſtellatus. Pall.

§ Silurus glanis.

theſe are floored with thick deals, and have large reſervoirs lined with planks, in which the freſh fiſh are pickled in a ſtrong brine. At the two ſides of theſe brine-vats are parts divided off, in which the fiſh, on being taken out of the pickle, are placed in layers and ſprinkled with ſalt; behind the compartments in which the fiſh are thus laid, the ſpace to the ſide of the cellar is rammed full of ice, for the better preſervation of this eaſily periſhable commodity. The diſtance of one vataga from another is indefinite; as are alſo the bounds in which neighbouring vatagas may fiſh. Only it is not allowed for diſtant fiſheries to approach any other than their own contiguous borders. The taxes paid by the vatagas to the crown, are rated according to the quantity of prepared roes and iſinglas, and for every pood of iſinglas five rubles, but for a pood of roes two rubles eighty kopeeks are paid into the caiſſe.

The capture at theſe vatagas is not proſecuted the whole year through, but only in ſpring, autumn, and winter, when the fiſh repair to the ſhores in greateſt numbers. In ſpring all the bays ſwarm with belugas, which are then without roes, and come hither only in queſt of prey; not leſs numerous are then the ſevrugas, which about this time ſpawn and do not return during the reſt of the year. In autumn and winter only the beluga is caught, which then collect in the bays, either for paſſing the winter or to ſpawn. Theſe two

ſpecies

ſpecices of ſturgeon, from the above-mentioned cauſes, ſeek freſh or moderately ſalt water, and to that end repair not only to the rivers, but alſo to the gulfs and bites of the ſea, where they find this advantage and convenient places for laying their ſpawn: whereas the real ſturgeon proceeds direct to the mouths of the rivers without tarrying in the bays. Theſe fiſh therefore are only caught at thoſe vatagas which are at the mouths of the Volga and on the river itſelf; and a ſturgeon is ſuch a rarity at the fiſheries on the bays of the ſea, that by a very antient cuſtom, it is the property of the individual who draws him out of the water.

The ſpring-capture begins as ſoon as the ſea is free from ice, which frequently is about the middle of March. Then come firſt innumerable myriads of little fiſh driving towards the ſhore, of which particularly the obla, a ſort of ſcale-fiſh, is caught and kept alive in wells, in order to have always a ſufficient quantity for baiting the hooks while the ſeaſon laſts. This little fry is next followed by prodigious ſwarms of ravenous belugas; the ſeaſon for taking which, however, ſeldom continues two full weeks, for which reaſon the fiſhermen are obliged to work day and night. In good years, a veſſel, while the ſwarming laſts, may bring up within four-and-twenty hours fifty and more of theſe large fiſh. The capture of the beluga is generally practiſed in the ſame method at all the

vatagas, with a machine conſiſting of a rope ſeventy ells in length, to which a hundred-and-twenty-five lines 1½ fathom long each, with as many large angling hooks, are tied. This rope, with the ſaid number of hooks is technically termed a neſt; and thirty of theſe neſts tied together commonly belong to a machine, which is therefore ſeveral hundred fathoms in length. Between every two neſts a ſtone is tied of ſome pounds weight, and the two ends of a whole machine are furniſhed with wooden anchors. Becauſe the machine yields, and yet floats with a great weight in the water, even the ſtrongeſt fiſhes cannot eſcape; but the anchors prevent the machine from being put out of its ſituation, either by the motion of the fiſh or by the agitation of the ſea. The machine when laid is viſited twice a day, and the hooks cautiouſly taken up along the rope. Paſſing a rope through the gills of the fiſh brought up, they let them down again into the water in order to bring them on ſhore alive.

Here they are dragged with hooks to the beach, which is laid with planks, and cut up in the following order: The lower part of the ſtomach, with the guts are thrown away; the fleſhy gullet is ſalted for eating. The roe lies through the whole body adjoining to the entrails; this is taken out with the hands and caſt into tubs, in which it is carried away by the kaviar-makers; then follows the float or ſounds which runs along the whole

whole back, and is given to the iſinglaſs-makers. Laſtly, they cut off the cartilage of the back, in order to extract the dorſal ſinews, which are waſhed, hung upon poles, and dried in the air. The fiſh being cleared of its entrails, the fat adhering about the milt and to the ſides is ſcraped away with knives, and collected into tubs, boiled down, and cleanſed. As this freſh fat is of a good taſte, it is uſed during the faſts inſtead of butter or oil. The cleanſed fiſh are at laſt brought into the cellar above deſcribed, where they are firſt laid to pickle in brine, and then, ſtrewed with ſalt, are laid up in courſes on each other. — The belugas not unfrequently are of a prodigious ſize; in the year 1769 one was caught in the wealthy bay, which meaſured eight and a half arſhines in length, and weighed ſeventy pood, or two thouſand eight hundred pound, and out of which twenty pood of roe was obtained. They are ſometimes taken in the Volga of a thouſand or fifteen hundred pounds weight.

When the ſhoaling of the beluga has ceaſed, immediately comes on the train of ſevrugas, which happens only once a year, and alſo laſts not much above two weeks; but during this ſhort ſpace is ſo much the more numerous. At one vataga, with a favourable ſea-breeze, it is uſual to catch ſixteen and ſometimes twenty thouſand of theſe fiſh. The nets made uſe of for this purpoſe are ſo thick that the machines are only a ſpan wide.

Five-and-twenty of them are tied together and laid at the depth of one fathom at moſt on ſunk poſts, as the ſevrugas go to ſhallow places and among the ſhilf. The largeſt of theſe fiſh are never above four arſhines and a half in length, but their roes, as well as their ſounds, are much more eſteemed than thoſe of the beluga, and conſequently bear a greater price. The fleſh is partly ſalted down and partly dried in the ſun.

About the middle of May the ſpring-capture on the ſea-coaſt is over, and then the fiſhermen repair with the goods they have got to Aſtrakhan, where it is all again laid up in ſtore-cellars and thence diſpoſed of wholeſale to the merchants of that city. — The autumn-capture begins in the middle of September, and continues through all October. In the mode of proceeding there is no difference between this and the former, only at this ſeaſon no other fiſh than beluga and, where there is freſh water, ſturgeon are taken. — The winter-capture begins as ſoon as the ice is ſet in on the ſea, and laſts the whole winter; then, likewiſe, only beluga are caught. For this purpoſe the ſame machine with the angling-hooks is ſet, only it is now under the ice. Apertures are cut through the ice at the diſtance of every eight paces, through which the rope, by means of long poles, is introduced. Where two neſts are tied together, the machine is faſtened to a croſs pole which reſts on the brink of the aperture. For the bait they have a

ſtock

ſtock to laſt the winter of obla-fiſh, which they have previouſly ſalted for that purpoſe. When they would take up the fiſh that are caught they looſen one ſingle net, faſten to one end of it a ſufficient length of rope for enabling them to draw it back without delay, and haul it out at the other end through the aperture. The fiſh are conveyed over the ice on ſledges to the vataga, and about this time immediately frozen freſh and carried to Aſtrakhan.

Beſides the great vatagas the proprietors of them have fiſhing-huts here and there on the ſea-coaſts, where there is no capture of ſturgeons, at which, moſtly in ſummer, ſhad and barbels are taken with drag-nets. Theſe two kinds of fiſh go not into the rivers in ſummer, but keep about the ſea-ſhore, as they find there a better nouriſhment. The ſhad here uſually weigh eight pood, and the barbel a pood and a half; the former are extremely fat in ſummer. The roes of this fiſh are thrown away, but of its ſounds an ordinary ſort of fiſh-glue is made.

Of all the rivers that devolve their ſtreams into the Caſpian, none more teems with fiſh than the Volga *, which not only ſupplies the parts adjacent

* The ſeveral ſpecies of fiſh, and the various methods of taking them in theſe rivers, are particularly deſcribed by ſeveral authors in the german language. At Aſtrakhan: travels of the younger Gmelin, tom. ii. p. 199–247. Falk's beytræge,

cent but the greater part of the empire with the ſeveral ſorts of ſturgeons, with kaviar and an incredible quantity of various kinds of ſmaller fiſh. This ſtore of wealth, which no other river in Europe poſſeſſes in an equal degree, is alſo the cauſe that the countrymen living about the Volga neglect agriculture to devote themſelves to the fiſhery. Among the fiſh peculiar to the Volga, which ſeldom or never come into the collateral rivers, are the beluga, the ſturgeon, the ſterlet, the ſevruga, the ſalmon, and white ſalmon *. Somewhat more common are the barbel, the ſhad †, the ſchelleſnitza ‡, and what is called the tſchechon §. Still in greater plenty in the ſubordinate ſtreams are the || ſudak, pearch, and innumerable kinds of ſcale-fiſh. Only the eel is neither in the Volga, nor in any of the rivers that fall into it, nor in any of the neighbouring lakes, neither is it known farther on through all Siberia. Inſtead of it there is the greater abundance of quobbs, and alſo crabs are extremely numerous and of extraordinary ſize, but bad taſted.

---

betræge, tom. i. p. 138. Ozeretzkoffkoi's deſcription of Aſtrakhan, in the journal von Ruſsland, tom. iii. p. 47—163. — At Saratof: Lepekhin's travels, tom. i. p. 224—228. — At Simbirſk: Pallas, travels, tom. i. p. 131—140. — In the Kamma: Pallas, travels, tom, iii. p. 488, &c.

* Salmo nelma. † Silurus glanis. ‡ Clupea aloſa. PALL.
§ Cyprinus cultratus. PALL. || Lucio perca.

Of

Of all the fiſh of the Volga, the ſeveral kinds of STURGEON and the WHITE SALMON are the beſt. The beluga is ſometimes caught of twenty but never of more than five-and-twenty ſpans in length, and weighing between thirty and five-and-forty pood; the number, however, of ſmall milters, of ſeven or eight ſpans, is incomparably greater. Sturgeons are got from five to eight ſpans long, and from twenty pound to two pood in weight. The ſevruga holds the middle ſtation between the beluga and the ſturgeon. The red ſalmon is only obſerved here in the two laſt months of the year, and even then but ſeldom; the white ſalmon ſwim againſt the ſtream in great numbers from the beginning of January to ſome time in July; both are from three to five ſpans long, and at moſt weigh thirty pounds. The barbel is often larger, and heavier, and the ſhad grows the largeſt after the beluga. — Of all the ſubordinate rivers that fall into the Volga, the Kamma is the wealthieſt in fiſh; and the fiſh of the Kamma are held to be the beſt flavoured of all in Ruſſia, at leaſt its ſturgeon, ſterlet, and white ſalmon are far preferable to thoſe of the Volga. Beſides theſe three kinds, a principal fiſh of the Kamma is a ſmall ſalmon called in ruſs krafnaya reba, red or beautiful fiſh *, commonly one and a half or two arſhines long, having likewiſe the bream and the tſchechon.

* Salmo eriox, or ſalmo alpinus.

Scarcely

Scarcely anywhere in the world is there ſuch a variety of contrivances and machines, ſome of them truly ſenſible and ingenious, for the capture of fiſh as are in uſe on the Volga, and particularly in the confines of Aſtrakhan. The ſeveral inventions of this nature may be reduced to three claſſes, one compriſing the fiſh-wears, the ſecond the angle, and the third the net. As it is impoſſible to diverge into a circumſtantial deſcription of theſe ſeveral kinds, we ſhall entirely paſs over the two latter claſſes, of which every one can eaſily form ſome idea himſelf, and only give a brief account of the moſt remarkable wears.

Theſe are either properly wears *, or fiſh-traps †. The utſchiugs again undergo ſeveral variations, but the ſort moſt in uſe is that called ſaboika, and is conſtructed in the following manner. Right acroſs the ſtream ſtrong poſts are driven at the diſtance of half an ell aſunder; when the current is very rapid, in a ſerpentine form, but elſe in a direct line. This done, they build againſt the ſtream, likewiſe of ſtakes, chambers ſomewhat in the ſhape of a heart, in the middle of which ſeveral holes are made, and are divided from each other. The ſtakes at the entrance to theſe compartments are but ſlightly fixed, ſo that they may give way on the preſſure of the larger fiſh. The circumference of each of theſe chambers may be

* Utſchiugi. † Gorodba.

about

about ſix fathom, and the mouth of it two ells. The interſtice between the poles, likewiſe thoſe which form the chambers, is filled by a row of perpendicular ſticks, not reaching to the ground, but in the greateſt depth are only four fathom long, and are connected together by willow twigs. Now, when the fiſh come up the ſtream, and preſs in at the entrance to the chambers, it is ſcarcely poſſible for them, by reaſon of the ſmall ſpace in the angular compartments of it, to turn their bodies ſo as to get out, but they muſt remain in that poſition till the arrival of the fiſherman. The ſmaller fiſh, which might perhaps be able to get through the aperture, are by the force of the ſtream, which as every one knows they ſtrive againſt, prevented from it. — Theſe wears have the advantage that they can remain ſtanding the whole year through, though they are often in want of laborious and difficult repairs; but the pereboika, which make a ſort of dam neceſſary, is only ſerviceable for the three months of autumn, and muſt every year be built anew. At every time of the breaking up of the ice they are taken to pieces; by which one half of the materials are loſt, and generally nothing is ſaved *.

In the lower regions of the Volga, the before-

* For many more particulars concerning this ſubject, ſee "Ruſſia, or a complete deſcription, &c." vol. iv. p. 395, 396, & ſeq.

mentioned fiſh-trap, called gorodba, is generally employed. It conſiſts likewiſe of a wear carried acroſs the ſtream, provided with ſeveral chambers, in which the fiſh are caught. In winter the ice is conſtantly kept open over theſe chambers, and a hut built having ſpace enough for the people, and in which they warm themſelves by a little fire. At the bottom of the chamber lies a frame, the full ſize of it, filled with net or baſket work, and may be wound up by a line faſtened to each of its corners. Over the opening, through which the fiſh enter, a trap-grating or net is placed, and before it, from a floating croſs-wood to the frame that lies upon the ground, nooſes are ſet, which every fiſh muſt touch on entering the chamber, whereby the croſs-wood is put in motion. The people, on perceiving the vibration of this, let down the trap-fall and wind up the wire grating on which lie the fiſh that are caught. But that the labourers need not be continually on the watch all night, a bell is connected with the nooſes before-mentioned, by which every fiſh announces himſelf on his entrance, and the trap-fall is ſo contrived, that on the motion of the fiſh it muſt drop of itſelf.

The utſchiugs are generally conſtructed only in the territory of Aſtrakhan, where the fiſhery on the Volga is ſo important and remarkable an object of induſtry and traffic, as to merit a rather more circumſtantial account. The tartarian word

utſchiug

utſchiug properly ſignifies that kind of dam which has been above deſcribed under the name ſaboika; but at preſent it implies a whole fiſhing-ſtation, which is uſually much larger than a vataga. All the utſchiugs are on the arms of the Volga, which at their ſeveral mouths diſembogue into the Caſpian, by which its great ſtore of fiſh may be conceived. Every utſchiug, beſides a number of buildings proper to it, has alſo a church, and dwelling-houſes for the labourers and their families. Theſe people, each of whom has his ſtated buſineſs, are not upon wages, as the fiſhermen at the vatagas, but have a yearly penſion for life, and are inrolled to the utſchiugs; conſequently, they and their poſterity for ever are fixed to the ſame employment. — The utſchiugs at firſt, upon the conqueſt of the tartarian khanate, belonged to the patriarch or the clergy; in the year 1704 they became an imperialty, the revenues whereof were obliged to be brought into the exchequer of the empire; but ſince the year 1763 they have been granted to the merchants of Aſtrakhan, in conſideration of a ſmall tribute, and the revenues are managed by what is called the fiſh-comptoir, the directors and members whereof are elected from the body of aſtrakhan burghers. The profits, after deducting the very moderate tribute to the crown, muſt be divided in equal portions among the merchants; but by ſeveral reports antient and modern, the fiſh-comptoir are ſo arrogant and

arbitrary in their proceedings, that the generous abandonment of her prerogative by the late empreſs, who intended that the benefit ſhould extend over the whole, is only advantageous to certain privileged perſons, who enrich themſelves at the common expence *.

Not

* In 1769 Gmelin, and in the year 1785 Oſeretzkoſſkoi made heavy complaints on this ſubject. The latter gives the following account of the then ſtate of the aſtrakhan fiſhery. In that year there were four chief utſchiugs, belonging to which were 450 inrolled boors and ſettlers of the male ſex, beſides the church-officers, burghers, and free inhabitants. The annual tribute to the crown amounted to 16,216 rubles; but the aſtrakhan corporation was no longer in the excluſive poſſeſſion of all the fiſheries; for in the year 1770 the land-ſurveyors ſold 5755 deſættines of land to ſeveral noblemen, who with theſe tracts of land obtained alſo ſome of the principal fiſheries, and the merchants therefore are forced to hire theſe of them at a very high rate, though they pay the ſaid tribute to the crown. The remaining fiſheries are let by the comptoir to aſtrakhan merchants, who commonly enter into copartnerſhips for that purpoſe, of which there were at that time ſixty-four. The kantora had entered into an obligation to ſupply all Aſtrakhan with good fiſh, and never to ſell it higher than thirty kopeeks the pood: but, as it ſells for more than that price even at the utſchiugs, this contract can no longer be kept, eſpecially as all the officers of the crown have a right to a daily ſupply of fiſh for their own uſe from the kantora. — Notwithſtanding all this, the aſtrakhan merchants have enriched themſelves conſiderably by theſe fiſheries, and it is the more to be wondered at, as the kantora which appears to have received from 1762 to 1785 above a million of rubles, yet was very near being obliged to take up a ſum exceeding twenty thouſand rubles of the imperial lombard.

Beſide

Not leſs conſiderable than that of the Volga is the fiſhery on the Ural, as forming the principal ſupport and occupation of the uralian Kozaks *; and nowhere in Ruſſia is this trade, by the laws of antient uſage, ſo nicely circumſcribed and ſo well regulated as here. Ever ſince the government granted the fiſhery to the Kozaks, in return for the payment of the moderate ſtipulation formerly annexed to the utſchiug at Gurief, they have completely broken up the ſaid fiſh-wear, and inſtead thereof incloſed the whole river about the

Beſides the actual inhabitants of Aſtrakhan; who are employed in the fiſhery, every ſpring about 10,000 fiſhing-canoes come thither having in each at leaſt two people, ſo that the number of ſtrangers who follow this trade at Aſtrakhan far exceeds 20,000. Some of theſe hire themſelves out to work at the great fiſheries; others, and that the majority, buy the permiſſion to fiſh for themſelves, at ſeven rubles each canoe for the whole ſummer. The rent of a cellar for ſtowing and ſalting the fiſh is twenty-five rubles.

The ſeal-capture, which is carried on by the more opulent part of the aſtrakhan merchants on the Caſpian, is likewiſe very profitable. The ſeals are killed in ſpring and autumn on the iſlands, where they are immediately gutted and powdered with ſalt, and then brought to Aſtrakhan, where they are flayed and the tallow of them is melted. The Aſtrakhaners by ſalting their ſeals immediately on the ſpot gain this advantage, that the tallow is far cleaner and better than that of the ſeals taken at Archangel; but in Aſtrakhan the pood of ſalt till 1785 coſt only ten kopeeks. — The fiſhermen affirm the Caſpian to be incomparably richer in ſeals than any other ſea on the ruſſian coaſts.

* Pallas, travels, tom. i. p. 283—298.

town of Uralſk by a permanent utſchiug, ſo that though the fiſh come freely out of the Caſpian into the Ural, they cannot advance higher than Uralſk. This river has all the kinds of fiſh that are found in the Volga, excepting only the bream, the red ſalmon, and a ſmall ſpecies of ſturgeon. The firſt and moſt important capture in the year is in January, with a particular kind of hooks called bogri. The ſecond, or the ſevruga capture, laſts from May till towards the middle of June; and the third, the leaſt conſiderable, is performed with nets in October. Towards the latter end of the year, or in the beginning of December, it is cuſtomary to fiſh in the ſecondary rivers and the lakes of the ſteppe, below the ice, with nets; but what they take is not of much conſequence, being only the ſmaller ſorts of fiſh for home conſumption.

Of all the migrating fiſh the white ſalmon firſt comes up the ſtream, and in March, April, and May, the ſturgeon kinds principally advance. The belugas lead the van, then follow the ſterlets, and, laſtly, during the whole of April come the ſevrugas, which proceed in the greateſt numbers, as the belugas in the feweſt. All theſe fiſh travel in ſhoals, but the ſevrugas in ſuch aſtoniſhing multitudes, that, eſpecially near Gurief, the ſwarms of them are plainly ſeen under the water, and, according to the affirmation of the Kozaks here, theſe fiſh formerly by the powerful preſſure of their numbers broke through the wear at Uralſk.

As

As it is a tradition of experience among the Kozaks, that the ſturgeons and belugas remain and winter in the river, but the ſevrugas travel back to the ſea in ſummer; it is a law with them, that while fiſhing for ſevrugas, which is always in the month of May, to throw into the water again all the belugas and ſturgeons that happen to fall into their nets; becauſe in winter theſe fiſh when frozen may be tranſported, bear a higher price, and conſequently are more profitable to the community.

The firſt great fiſhery in January is chiefly for ſturgeons and belugas. Theſe fiſh in autumn range themſelves in ranks in the deep places of the river, where they paſs the winter, not indeed without ſenſation and motion, yet in a continued ſtate of reſt. When the ſeaſon for angling is arrived, commonly the third or fourth of January, a general aſſembly of the people is held, in which an ataman is elected for this purpoſe, to whoſe appointmen ſeveral aldermen and a yeſſaul are added; and on theſe occaſions the common Kozaks enter into artels or companies. The interval till the anniverſary on which the fiſhery begins is taken up in getting all the veſſels and utenſils in proper order; and among theſe particularly the fiſh-hooks, which are of a ſemicircular form, and faſtened by the broad end to a long pole. Then licenſes with the chancery-ſeal annexed are given out to all the Kozaks actually enrolled in the ſervice, and not

abſent; of which each Kozak receives one, the members of the chancery excepted, who receive from two to four tickets. Kozaks that have been diſcharged, or are not in the ſervice, may purchaſe theſe licenſes of others, and thus obtain a right to fiſh. The day on which the fiſhery begins, all the Kozaks having tickets of licenſe aſſemble before ſun-riſe, with their ſledges and implements, at a ſtated place before the town, ranging themſelves in rows and ſections according to the order in which they arrive. They are now muſtered by the ataman, who diligently inquires whether every Kozak is provided with arms for reſiſtance in caſe of an attack from the Kirghiſes; the yeſſaul once more exhorts the people to preſerve peace and good order; and, laſtly, two cannons are fired as a ſignal for breaking up, upon which every one ſcampers away as faſt as his horſe can run, to the diſtrict appointed for fiſhing to get poſſeſſion of the moſt advantageous places. Yet no one may preſume to break the ice till all are aſſembled at the river, and till the ataman has given the ſecond ſignal by firing his muſket. The ſame order is obſerved every ſucceeding day as long as the fiſhery laſts.

Now every Kozak at the ſpot where he intends to fiſh makes a tolerable round aperture in the ice; in doing which he is allowed to come as near as he will to another, ſo that he does not pretend to take two openings into one. In ſhallow places he makes

makes uſe of the ſhort hooks of which he holds one in each hand, guiding it with the point againſt the current, becauſe the fiſh when diſturbed in theſe flats uſually go downwards. As ſoon as the Kozak perceives a fiſh at his hook, he draws him in as quick as poſſible, and pulls him ſo high that he can reach him with his hand-hook and bring him on the ice. In deep places it is neceſſary to uſe the hook faſtened to the end of a long pole, of which on account of its weight every Kozak can only hold one. Theſe being ſtuck about on all ſides, in order to feel for the fiſh, it not unfrequently happens that two Kozaks catch at once the ſame fiſh, which then according to their cuſtoms, muſt be divided between them. — By this curious method of fiſhng, a man is often ſo ſucceſsful as to get ten or more large fiſh in a day; whereas others will not be able to take ſo many the whole month through as will defray the expences attending it, or refund the money advanced.

The ſecond large capture of ſevrugas is in ſpring, as ſoon as the guard ſtationed at Gurief brings the account that theſe fiſh are arrived in the mouth of the Ural, which uſually happens in May. The order and ceremonial is on this occaſion preciſely the ſame as at the winter fiſhery; and the elected ataman cauſes a rope to be ſtretched acroſs the river, to mark the boundary within which it is lawful to fiſh. When one compartment begins to get poor in fiſh, a ſecond is marked off in the

ſame manner, thus gradually retreating till they come to the mouth of the Ural and into the open ſea. The nights are left to give the fiſh time to collect again in the compartments that have been fiſhed out; and every morning before ſun riſe, the Kozaks are again preſent to wait for the ſignal of the ataman, on which occaſion every one ſtrives to place himſelf as low as poſſible down the current. The Kozaks while fiſhing ſit ſingly in little canoes, which commonly are made of the trunks of the black or white poplar, paid over with aſphaltus inſtead of pitch. The nets are between twenty and thirty ells in length and conſiſt of two partitions, one cloſer wove and ſomewhat larger ſo as to make a belly when the farther partition is ſpread. One end of the net is kept above water by a float of wood, the other end being held by a Kozak, and it is weighed to the bottom by a ſtone. When it is caſt, the fiſherman lets his canoe go without guidance with the current; the ſevrugas, which ſwim up the river, ſlip without reſiſtance through the foremoſt and wider ſide of the net, but when they are retained by the hinder and attempt to go back, they remain ſuſpended by their fins. By the agitation from the innumerable nets and canoes, the water is ſo troubled, that the fiſh are no longer able to ſee the nets, and are then enſnared in them in greater numbers. Scared by the noiſe and buſtle of the fiſhermen, the ſevrugas preſs together on the

lower boundary in the river in ſuch manner, that the neareſt fiſhermen, if they proceed any thing above the mark, are ſcarcely able to draw what they have caught out of the water.

When this fiſhery is over, the Kozaks turn to other buſineſſes, make trading journies, and in the latter end of ſummer look after their hay-harveſt. This being done, towards the cloſe of September the autumnal fiſhery commences, which is opened in the order above deſcribed, with great caſting-nets, and in which it is permitted, beſides the ſmaller ſpecies of fiſh, to take all ſorts of ſturgeons. — Laſtly, after a reſpite of a few weeks, ſucceeds the fiſhery under the ice in the ſeveral inferior waters, but the produce of it is not very abundant.

The largeſt belugas caught in the Ural weigh often five-and-twenty pood, yielding about five pood of kaviar, but on account of its numerous viſcous ſtrings, it is reckoned the worſt. The ſturgeon are about a fathom in length; the biggeſt weigh five pood, and frequently contain a pood of kaviar, which is much eſteemed for its quality. The fiſh are here, as at the Volga, moſtly ſalted; kaviar is prepared from the roes, and fiſh-glue made of the cartilaginous ſubſtances; but the winter-fiſh are tranſported frozen.

The Yemba and the Terek, which likewiſe flow into the Caſpian, are neither of them very rich in fiſh; the latter, however, produces ſturgeons and

belugas, ſevrugas, ſalmon, barbels, ſhads, carp, &c. The draught on theſe rivers affords too little buſineſs to demand here any particular account.

The fiſhery on the EUXINE and the SEA OF AZOF, though neither ſo important or extenſive as that of the Caſpian, is not deficient in the larger and palatable kinds of fiſh, among which are particularly to be remarked the various ſorts of ſturgeon. — The whole northern coaſt of the ſea of Azof, from the Don to Perekop, is laid out in fiſheries, to which occupation theſe diſtricts are extremely favourable. They fiſh with nets that have in the middle a conical bag, in which the fiſh aſſemble; and one ſingle draught, which generally laſts only ſix hours, yields 60,000 fiſh, among which however are found but few ſturgeons, ſhads, and other large kinds of fiſh *. — The moſt conſiderable fiſheries on the peninſula of Taurida are at Kertſh and Yenicaly, where the capture uſually begins in May and continues till ſometime in October. Among the moſt remarkable fiſh of theſe waters are the ſturgeon, the ſterlet, and the ſuruk †; the two firſt ſpecies are cut lengthwiſe in pieces, dried and ſmoaked, and ſent to Turkey, where they find a great demand. Beſides, at theſe havens, particularly at Taganrok, a conſiderable quantity of kaviar, train-oil, and fiſh-glue are ſhipped off; and in Feodoſia they

* Guldenſtædt's travels, tom. ii. p. 84.

† Salmo vimba.

get excellent prepared roes of the pollard *, but only in ſmall quantities †. The ſalted and ſmoaked mackarel, called by the Turks ſkumri, are an important article of trade in the Krim, and are frequently ſent from Feodoſia and Balaklava to Conſtantinople and to all the maritime towns of Natolia and Romelia. Theſe fiſh are tranſported in tons, and a thouſand of them are ſold on the ſpot for three and a half or four piaſtres. The capture of the mackarel, which is done with nets, begins towards the end of ſummer, and they are loaded off in autumn. We omit the ſpecification of the ſmaller kinds of fiſh, which are alſo in conſiderable quantities ſent away dried and ſalted ‡.

We are now to ſpeak of the BALTIC, on the coaſts whereof a conſiderable fiſhery is carried on. The gulfs of Riga and of Finland contain generally the ſame ſpecies of fiſh, and the employment which the produce of both occaſion is nearly equal. The naturaliſt of Livonia § enumerates in the waters belonging to that province nine-and-forty

* Poutargue. Salmo thymallis.

† In the year 1793 all the harbours of the Euxine and the ſea of Azof exported:

Fiſh	6960 pood,	value	10,134 rubles.
Kaviar	23,695	- - -	93,821
Iſinglaſs	6½	- - -	16
			103,971

‡ Peyſſonel's ſtate of the commerce of the Black-ſea, p. 176.

§ Fiſcher, in his natural hiſtory of Livonia.

different

different ſpecies of fiſh; among which the ſalmon, ſtreamlings, pike, and lampreys, if not for home conſumption, yet for exportation, are the moſt important. The ſalmon is caught in almoſt all the rivers, but thoſe in the Dvina and the Narova are the beſt, though they come far behind thoſe of Archangel in delicacy and plumpneſs; they are exported ſmoaked and ſalted. The ſtreamlings, a degenerate ſpecies of herring, are everywhere found on the ſhores of the Baltic, but eſpecially about Pernau, where they are in ſuch quantities, that three hundred of theſe ſmall fiſh are bought for three or five kopeeks; a ton of them when ſalted coſts from three to ſix rubles. Formerly they were exported; but the northern herrings have annihilated this branch of commerce, which are at preſent even bought by Livonia, the ſtreamlings being not ſufficient for the home and the foreign conſumption. Yet inſtances are not wanting of 300,000 of them having been taken at one ſucceſsful draught. One ſpecies of fiſh quite peculiar to theſe waters is the kyllo ſtreamling, a ſmaller and more delicate variety of the true ſtreamling caught in great numbers in autumn near Reval and Roggervyk. They are pickled, and form a good ſubſtitute for anchovies and ſardelles, and are accordingly, thus prepared, ſent abroad to various parts. Not leſs exquiſite are the potted lampreys that come particularly from Narva.

Narva*. The greateſt ſtore of the gulf of Finland conſiſts in ſterlets, ſalmon, and carp; even ſturgeon are found in the gulf of Cronſtadt, and likewiſe at times in the Neva. Of the ſmaller ſorts of fiſh with which the government of Vyborg is provided to a great ſuperfluity, an exceedingly great quantity are brought alive in pierced veſſels to St. Peterſburg, and there ſold cheap at the water-ſide in the barks which form a ſort of fiſh-market, and others that lie in various parts of the canals. In winter the tranſport of frozen fiſh from the remoter parts of the empire is alſo very conſiderable †.

Next to the ſeas that encompaſs the ruſſian empire and the great rivers that diſembogue into thoſe ſeas, ſeveral LAKES in Ruſſia yield a plentiful ſupply of fiſh. Among the chief of theſe is the BAIKAL, which is already remarkable for its extraordinary magnitude. The fiſhery on this lake is proſecuted the whole ſummer through with large drag-nets, above two hundred fathom long, let down into the water by a ſtrong rope, and may be drawn in again by a windlaſs. In winter, as ſoon as the ice is broken up, the beſt draughts are afforded by what are here called the DEVIL'S LAM-

* Hupel's topographiſche nachrichten von Liefland und Eſthland, tom. ii. p. 462—469.

† Georgi's abriſs der naturlichen und œkonomiſchen beſchaffenheit des St. Peterſburgiſchen gouvernment, p. 540—543.

PREYS,

PREY'S *, and the LENKI †, which then come to the ſhallow ſhore to ſpawn. But in the ſummer, when the fiſh ſeek the deep water, they can only be taken off the ſteep coaſts where there is depth of lake enough. A primary object of this fiſhery is the OMUL, with which we are already acquainted from what has been ſaid before, and which in ſummer croud in great abundance about the ſouthern ſhore, but in autumn ſeek the mouths of the rivers on that ſide. One very remarkable phænomenon of the Baikal is the SEAL, which never uſes to remove far from the ocean into rivers, and therefore by ſome great revolution in the ſurface of the earth, or by ſome other extraordinary and rare accident muſt have been brought into this vaſt lake. This animal here is of a ſilver-grey hue, and not fewer than two thouſand of them are killed annually.

Still more curious is a ſort of fiſh entirely peculiar to the Baikal, denominated by the ruſſian inhabitants GOLOMYANKA ‡. Theſe fiſh are of ſuch an oily fatneſs that they diſſolve over the fire quite to the bones. They have never yet come within ſight alive; and it is conjectured that they confine themſelves to the deepeſt pits of the Baikal. After violent ſtorms, dead, they cover large tracts of the

* Salmo oxyrrinchus.

† Salmo ſalvelinus.

‡ To which Pallas has given the name of Callyonymus Baikalienſis.

ſurface

ſurface of the water, and in ſome years they are ejected by the lake in ſuch numbers as to lie upon the beach heaped up like a rampart. Theſe aquatic animals, which on account of their diſguſting fat are never touched by the gulls or crows, are however ſubſervient to human induſtry. An oil is extracted from them by boiling, which the Ruſſians ſell to the Chineſe with great profit *.

Among the other ſiberian lakes the Tſchan is particularly prolific in fiſh; but among the european the Ladoga is reckoned the moſt remarkable in this reſpect. In it are found not only ſturgeons, ſalmon, the knife-fiſh, or thin-belly †, &c. but likewiſe ſeals; and nearly the like kinds are caught in the Onega. The Peipus yields extremely fat mullets, barbel, pikes, large quobbs, eels, rebs, and others. The rebs, or the marena, is a ſpecies of herring, found in ſeveral lakes, eſpecially in the Peipus, and they are bought from thirty to ninety kopeeks the thouſand. They are conſumed either freſh or ſalted; and, in the latter caſe, ſupply with the country people the place of herrings, which are become a neceſſary. Formerly the fiſhery on the Peipus gave occupation and bread to 17,000 perſons; but ſince the fiſhermen have taken to the uſe of nets with ſmall meſhes, by which the young fry are carried away, this ſupply has ſenſibly declined. In the lake Ilmen are caught ſhad,

* Pallas, travels, tom. iii. p. 288—291.

† Cyprinus cultratus, PALL. Tſchechon and ſabla, in ruſs.

perch,

perch, mullets, ſudak, karaſs §, tench, and the beloye; the ſmaller european lakes are likewiſe proportionably productive.

We ſee then from all theſe facts, that the occupation occaſioned by the fiſhery in the ruſſian empire is great and various, yet it bears no proportion to the produce of the waters. In vain does Nature preſent her ſtores in the greateſt ſuperfluity, if there be a want of hands to collect her proffered bounty, or if prejudice and indolence contract the ſpirit of induſtry. Ruſſia has not only numerous waters that ſwarm with finny tribes, the products of which are left utterly unexplored, but ſhe imports annually from the foreigner a very conſiderable quantity of ſalted fiſh; a deficiency which might be eaſily ſupplied by her domeſtic produce. The whole amount of what ſhe got by the ſale of her fiſh, particularly the ſturgeon, at the foreign markets, was in 1768 no more than 8000 rubles, and in the year 1793 only ſomewhat above 10,000 rubles. Whereas in the laſt-mentioned year, iſinglas to the value of 452,000 rubles, and kaviar amounting to 188,000 rubles were ſent abroad, the exportation of which together in 1768 had amounted only to 120,000 rubles. A better regulation of the fiſhery at the mouth of the Dniepr might contribute much to the increaſe of this exportation, as the ſeveral kinds of ſturgeon are there in great abundance. The ſame

§ Cyprinus caraſſius

product

product might alſo be obtained by the navigation of the Caſpian, if fiſheries were eſtabliſhed at the bays formed by the mouths of the Agrakan, the Kur, and the Svidura, which the Perſians, who eat no ſturgeons, would eaſily allow. The mouths of the Yeniſſey, the Oby, and the Petſchora might alſo be made to yield great quantities of theſe products, and the tranſporting them acroſs the ſea to Archangel would be attended with no difficulties, as the ruſſians have already at various times viſited the coaſts of the Frozen-ocean. But it would in a particular manner tend to increaſe the profits ariſing from kaviar, if, beſides the black roes of the ſeveral kinds of ſturgeon, the yellow of other large fiſh were likewiſe employed to that purpoſe, as for example that of the pike, the ſudak, the carp, the ſea-bream, and many other ſpecies of the cyprinus, which ſport in abundance in numberleſs ſtreams of ſouthern Ruſſia. The Greeks and Armenians about the Euxine are particularly fond of this yellow kaviar. — The export of fiſh-oil in 1768 amounted to upwards of 80,000, and in 1793 to above 106,000 rubles. This article of exportation might likewiſe be greatly increaſed if the fat of the ſea-beluga were more generally employed; and then the whale-fiſhery ought certainly to be purſued with greater activity and diligence. — According to ſtatements that have been communicated the value of theſe products, obtained from the fiſhery and conſigned to the foreigner, amounted

in

in the year 1768 to 208,000, and in the year 1793 to more than 756,000 rubles.

This riſe of the exportation would doubtleſs lead us to conclude that there was an increaſe of activity and induſtry; but the importation has augmented in an equal proportion. In the port of St. Peterſburg alone, to the value of above 246,000 rubles in products of the fiſhery were imported in the year 1793; of which the ſingle article of herrings came to 228,000 rubles, whereas the whole importation of them in 1768 amounted only to 107,000 rubles. As this fiſh likewiſe forms in the reſt of the harbours of the Baltic and of the White-ſea one of the chief articles of importation, it is ſurely worth while to conſider a little on this ſubject, and to endeavour to find out how this needleſs and burthenſome expence may be leſſened. Beſides the herring which Ruſſia herſelf poſſeſſes, and beſides the omul, of which notice has been taken in ſpeaking of the Frozen-ocean, that patriotic academician Guldenſtædt *, in this view particularly recommends the ſtreamlings †, the knife-fiſh ‡, and the chalcoid §, which in taſte very much reſemble the herring, and are found plentifully in the Euxine, the ſea of Azof, and the Caſpian. The ſhad, which at Tſcherkaſk is called ſeldetz, at Aſtrakhan ſhelenitza, and in

* Academical diſcourſe, p. 40.

† Clupea aloſa, PALL. ‡ Cyprinus cultratus, PALL.

§ Cyprinus chalcoides, LINN.

other

other parts of the Volga reba veſſelaya, is very common in the lower Volga as far as the mouth of the Oka, and even in that river and in the Kama, and alſo in the lower Don. Here they generally ſwim in ſhoals, but in the Dniepr they are not in ſuch numbers. The knife-fiſh, as it is called by the Germans, tſchekon by the inhabitants of the Volga, and by the Ruſſian ſabla, is found with the ſhad in particular places, and is alſo not unfrequent in the gulf of Finland. The chalcoid paſſes from the Caſpian only into the Terek, and is there called tſchernaya reba; but from the Euxine they aſcend the Dniepr, where they bear the name of ſcabria; and they are not wanting on the coaſts of the ſea of Azof. This fiſh by its delicate texture even excels the herring. A better regulated fiſhery on the coaſts of the Euxine and the ſea of Azof might yield abundance of other fiſh of moderate ſize, which would render the herring not ſo neceſſary. The abolition of all monopolies, the low price of ſalt, and the ſupport afforded by government to every uſeful undertaking, are ſufficient encouragements to the adoption of theſe propoſals, and would aſſiſt in relieving the country from a conſiderable yearly expence.

If we may truſt the calculation of an author already ſeveral times quoted, the whole value of the produce of the fiſhery in one year may be

eſtimated at fifteen millions of rubles.*. Without vouching for the accuracy of this ſtatement, we may admit with great probability that it is not much exaggerated, if we conſider the extent of this branch of induſtry, the diverſity of its objects, and the prodigious conſumption which muſt ariſe from ſuch a number of faſt-days among thirty millions of people. But the greater the demand for this kind of food, ſo much the more would it repay any pains that might be neceſſary for diſcovering the defects that have hitherto ſtood in the way of the beſt and fitteſt means of ſupplying it, and which are only cheriſhed by ſloth and prejudice. With a great part of the ruſſian peaſantry fiſh is a prime neceſſary of life, and the conſumption of it is in many places greater than that of fleſh-meat; which, partly from a leſs inclination for it, and partly from the rites of the church, is but in very little requeſt with the nation at large, when compared with other countries. Nothing then would be more meritorious than to eradicate that baneful prejudice which the common people of Ruſſia entertain to this day againſt ſeveral wholeſome and palatable kinds of fiſh that abound in ſuch multitudes as to ſupply the greater part of the nation with food. Of the ſhad, for inſtance, which from the beginning of May to the end of ſummer travel up the Volga in amazing ſhoals,

* Herrman ſtatiſt. ſchild. von Ruſsland, p. 456.

the

the vulgar have the fooliſh and ungrounded notion, that it renders thoſe who eat of it mad; of courſe it is never eaten by the Ruſſians, but either thrown away, or diſpoſed of at an extremely trifling price to the Mordvines and Tſchuvaſches, who by their daily experience refute the idle notion. It is, moreover, well-known to be a fiſh which bears ſalting and ſmoking excellently, and would prove a great relief to the lower orders if they could be perſuaded to lay aſide this incomprehenſible prejudice. The tſchechon is likewiſe very little eſteemed, and only eaten from neceſſity by the very pooreſt of the people. Lampreys are in the ſame unfortunate predicament, which are plentifully found in the Volga; and crabs are in utter abhorrence with the country people, which they only learn to conquer when they come into large towns*.

The fiſhery at the mouths of the rivers that fall into the Caſpian is of ſuch conſequence that it is much to be wiſhed ſome alteration were made in the manner wherein it is conducted. The utſchiugs were contrived by the aſtrakhan Tartars, to whom it being naturally a matter of very great indifference whether by theſe wears they ſtopped up the paſſage to the fiſh in their migration to the ſuperior regions of the rivers, they might perhaps invent them on purpoſe to deprive the Ruſſians of the benefit of ſo rich and perpetual a ſource of livelihood. Now,

* Pallas, travels, tom. i. p. 132—134.

that the Volga and the Ural, from their heads to their other extremities flow only over ruſſian territory, it would be but juſt and equitable to deſtroy that memorial of the Tartars, and to let the upper inhabitants of theſe rivers participate in the enjoyment of the valuable kinds of fiſh, of which there would be far more throughout Ruſſia if the paſſage from the Caſpian were not ſo entirely ſtopped. The uſe of nets too might be prohibited, or at leaſt confined by certain reſtrictions, becauſe a ſufficient quantity of fiſh might be caught by angling, and becauſe the nets prevent the ſturgeons, barbels, ſalmons, and belugas from going up the ſtream, and frequently compel entire ſhoals of theſe fiſh to go back into the ſea*. — But, when the patriotic obſerver forms his projects he has only the benefit of the whole in view; it behoves a juſt and prudent government not to loſe ſight alſo of the advantage of the individual, and to make the claims of all upon the general welfare coincide with the rights of each.

* Oſeretzkofſkoi's beſchreib. von Aſtrakhan, &c. p. 103.

SECTION

SECTION III.

The Breeding of Cattle.

THE third diviſion of productive induſtry comprehends the BREEDING OF CATTLE, a buſineſs which in the ruſſian empire is purſued in a variety of ways. In the ſeveral regions where agriculture is the prime ſource of livelihood to the inhabitants, the breeding of cattle can only be conſidered as a collateral branch of rural œconomy; but with thoſe tribes who confine themſelves ſolely to that employment, it obtains the character of a mode of living, and by its influence on the ſocial and moral condition of mankind, is at the ſame time a ſubject for the hiſtory of the progreſſive culture of the human race. On the ſcale of civilization the herdſman ſtands above the fiſherman and the huntſman, as his ſtate is more permanent, and leads him from a rude and laborious to a milder and more commodious way of life. If the chace or the fiſhery more quickly expand the natural and intellectual faculties of man, the paſtoral life binds him more to the ſoil on which he tends his droves and inſpires him with that ſociability which is the germ of civil conjunction. The lonely huntſman may eaſily diſpenſe with the advantage for which in ſociety he barters the loſs of his natural liberty; he is contented with an imperfect

connexion with other men to promote a ſingle end, which immediately ceaſes as ſoon as that end is obtained. But ſeldom ſhall we hear of a paſtoral people that without a ſocial conſtitution attained to any duration and grandeur; a manner of life which cannot ſubſiſt without ſecurity of property, nor be accompliſhed without reciprocal aid, conducts men ſoon to the only method of enſuring to themſelves theſe advantages; and when they have once adopted it, they puſh forward on the line of improvement with infinitely greater ſpeed than the fiſherman or the hunter, whoſe talents and capacities are only exerciſed on the reſiſtance or the cunning of brutes.

The nations of herdſmen in the ruſſian empire are the Kirghiſes, the Kalmuks, the Baſchkirs, the Burats, and ſeveral others leſs numerous; the breeding of cattle is a principal trade with the Kozaks of the Don, the Nogayans, the Barabinzes, and ſome others; with moſt of the nations of hunters it is a very conſiderable collateral means of profit, and as an important branch of rural œconomy it flouriſhes in many diſtricts of proper Ruſſia. On the whole, the buſineſs of the graſier is proſecuted in the ruſſian empire to a greater extent, but alſo far more negligently than in other countries of Europe. Without reckoning the great droves from which the nomadic tribes derive their ſupport and their wealth, almoſt every boor, even he who is accounted poor, has his little cow-houſe, and even the beggar, who literally lives

lives upon alms, is generally, however, poſſeſſed of a cow or a goat. But if we except the ſmall number of enlightened huſbandmen, and the coloniſts and burghers in ſome provinces, it cannot be denied, that the breed of cattle is almoſt everywhere very careleſsly managed; and that the culture of this important branch of induſtry in general, notwithſtanding ſo many natural advantages, is ſtill far ſhort of its perfection. As we ſhall have occaſion in the ſequel to touch more cloſely on the peculiar excellencies and defects of this buſineſs among the Ruſſians, we ſhall here omit the general ſpecification of them, in order at once to make ourſelves acquainted with the main objects of the preſent article.

The foremoſt of theſe in the ruſſian empire is the NEAT-CATTLE, the culture of which is of the utmoſt conſequence both to home conſumption and to foreign commerce. Almoſt everywhere, where the climate and the ſoil are favourable to this branch of huſbandry, large droves of horned cattle are kept, and the chief wealth of many of the nomadic tribes conſiſts in theſe uſeful animals. The malo-ruſſian and newly-acquired poliſh provinces particularly poſſeſs a ſuperfluity of them, eſpecially the former poliſh Ukraine; alſo in the regions of the Don and in the governments of Kharkof, Kurſk, Orel, Kazan, Ufa, Saratof, &c. as well as in ſeveral governments of the northern territory, they abound in ſuch numbers as to admit of exportation; and the Kirg-

hiſes, Kalmuks, Baſchkirs, and ſeveral branches of the Tartars even ſupply a great part of the empire with this neceſſary. From the Ukraine not only ſome thouſands of live oxen are every year driven to St. Peterſburg, Riga, and Reval, but even to Sileſia and Germany. In many regions of this favoured country the breed of cattle is far ſuperior to the agriculture, and the land-owners there make more account of oxen than of horſes, as they uſe the former at the ſame time for draught. In what was formerly Little Poland, the breeding of cattle is favoured by the uncommonly rich paſtures, on which the graſs grows ſo high that the graſing beaſts are frequently concealed in it to the very horns. The podolian oxen have long been famous among the graſiers of every country, and if the fraudulent tradeſman did not ſometimes attempt to ſell foreign horned-cattle under this name, we ſhould juſtly be aſtoniſhed at the fertility and abundance of that province. With the Kozaks of the Don the breeding of cattle is a primary buſineſs, and their fine horned-cattle, in no reſpect inferior to the malo-ruſſian, find excellent paſturage in the graſſy ſteppes and on the banks of the rivers luxuriant in the choiceſt herbage. The nurture of them is ſo much facilitated by the ſhort and mild winter, that individuals among the Kozaks poſſeſs khutores or farms, on which are fifty to two hundred head of horned cattle. In the government of Archangel, particularly in the ſouthern

ſouthern circles, the breeding of cattle is carried on with great ſucceſs. The fine cattle of Kholmogor, known over all the north of Ruſſia, attained that high degree of excellence by the wiſe meaſures of the late empreſs, who upwards of thirty years ſince cauſed a breed of dutch cows to be diſtributed among the inhabitants of thoſe fertile meads. The calves of Kholmogor are in particular eſteem for their excellent veal, and are brought in large numbers to St. Peterſburg, where they are ſold to great profit. The fattening of them indeed takes up forty weeks, but then one ſuch calf will weigh 680 to 800 pound. The far greater part of all the governments breed a ſufficient quantity of horned cattle for their own conſumption, and many of them diſpoſe of their ſuperfluity to the poorer provinces. Among theſe the two governments of St. Peterſburg and Moſco ſtand foremoſt on account of their great population and the diſproportionate conſumption of their capital towns. The breeding of cattle in the government of Moſco is by no means inconſiderable, and yet a great number of horned-cattle are annually brought in. In that of St. Peterſburg it can be but ſcanty by reaſon of the unfavourableneſs of its local ſituation, eſpecially as the oxen here are not uſed for draught, and as the calves are bought up as luxuries for the table; yet every boor keeps a few cows, as they bring him

him good returns. Live oxen fit for ſlaughter and frozen beef are brought hither every year from the Ukraine and from the Kalmuk-horde, a diſtance of more than two thouſand verſts; and, beſides the calves which this reſidence receives from Archangel, conſiderable numbers of them come from the upper and the middle Volga. As theſe beaſts by the long way they are obliged to travel commonly loſe much of their fat, the farmers in Livonia and Eſthonia take them into feed the winter through; whence ariſes to theſe provinces a regular and important branch of trade. Many a proprietor keeps in this manner at his diſtillery three hundred head of oxen; by each of which he gains from eight to fourteen rubles, beſides the benefit of their labour in cultivating his corn fields.

Neat-cattle with almoſt all the paſtoral nations compoſe the leaſt part of their ſtock, as the breed of horſes and ſheep is their principal object. The Kirghiſes have fine unhorned cows; among the Kalmuks only the poorer ſort keep horned-cattle and horſes in equal number: the opulent herdſman uſually poſſeſſes far more of the latter. All the kalmuk herds remain the whole winter on the ſteppe, and nevertheleſs thrive well. The chief wealth indeed of the Nogayans conſiſts in beeves, but this ſluggiſh people are ſo poor, that the owner of five hundred oxen paſſes for a very rich man.

man. In general the breeding of horned-cattle is the moſt attended to by thoſe nations who make uſe of them for draught and as beaſts of burden.

The method in which the breeding of neat-cattle is carried on in Ruſſia, differs immenſely from that purſued in other countries of Europe. What was before mentioned of the defects of cattle-breeding in general is particularly applicable to this branch of it; for nowhere can careleſſneſs in the management of theſe beaſts be carried to greater lengths than here. Immediately as the ſnow is melted from the ground, the horned beaſt muſt ſeek his own nouriſhment, on frequently very poor and diſtant paſtures, and from this period he is not to expect a handful of provender at home till the winter again renders it impoſſible for him to graze. In that ſeaſon indeed he is foddered in the ſtall, but ſo penuriouſly that his bones ſeem ready to ſtart through his hide, and he frequently cannot raiſe himſelf without the help of his keeper, as not ſeldom dry ſtraw and cold water are the whole of his nouriſhment. Only the cows when they have juſt calved receive a little hay and meal, and yet they ſuckle their calves, and here and there, e. g. in the provinces of the Baltic, yield during the ſummer forty pounds of butter and more. Even the practice of foddering and having warm hovels is not in uſe though in the moſt woody diſtricts, and to all theſe deficiencies, ſo baleful to the proſperous nurture of cattle, muſt

ſtill be added, particularly in Siberia, frequent diſtempers.

It is ſcarcely neceſſary to remark that this deſcription only in general holds good; and that particular diſtricts, as well as particular farmers, form many advantageous exceptions to it. Yet for the fault that is in general ſo ſtriking, ſome apologies are to be found grounded in the phyſical and civil ſtate of the ruſſian empire, and againſt which little or no reply can be made. The proper feeding, for inſtance, with ſuch large droves as are in Ruſſia, is perhaps not practicable; in the governments where the rearing of cattle is purſued not as a principal trade but only as a collateral branch of huſbandry, it might certainly be more general; but in theſe there is no want of diligent countrymen who take great care to fatten the neat-cattle. In this regard the governments of Riga, Reval, and St. Peterſburg have been already brought as inſtances, and beſides theſe ſeveral others might be named. The herds of the nomadic nations fatten themſelves on the rank ſteppes, and induſtrious peaſants in many parts of the empire follow the graſier's buſineſs as a trade or for their proper uſe. Careleſs country-people and herdſmen indeed leave their cattle to ſeek their proviſion during the winter under the ſnow, eſpecially in ſuch parts as feel a want of fodder; but who can blame them for it, when it is conſidered that the low price of cattle affords the owner but a very moderate

derate profit, and that this circumſtance jointly with the total want of a demand, or the difficulty of obtaining a vent for them, holds out no encouragement to care and laborious attendance. — The arguments brought againſt common paſtures and for their incloſure, as well as for houſe-feeding, may be completely juſtified in other countries by experience: but they do not everywhere, except under certain limitations, ſuit the ruſſian empire, in which are excellent paſture-grounds in abundance, but proportionately few people. The ſhort ſummers in the northern diſtricts may be employed in more profitable occupations than hay-making, as the multitude of field labours ſcarcely allow time to the inhabitants of the country to gather intheir miſerable crops. The richeſt common paſtures conſiſt of monſtrous large ſteppes, the partitioning of which would be attended with infinite difficulties, and how could the nomade without the uſe of them maintain his droves which he numbers by hundreds and thouſands, and which muſt be attended without hired people? Theſe and many other circumſtances here unnoticed ſhew that the methods of breeding of cattle in England, Germany, and Holland can only be very conditionally applied to Ruſſia. With all the real or imaginary defects to which it is here expoſed, it however affords the inhabitants many and in ſome diſtricts all the means of livelihood, and yields

beſides to commerce a multitude of important products for exportation*.

Here firſt preſent themſelves to our notice hides and tallow, two main articles of ruſſian commerce. Of the latter in the year 1793 above 1,035,000 poods were exported, and the value of that quantity amounted to 4,279,000 rubles, not including the tallow-candles, the exportation of which came in value to 170,000 rubles. Yufts and leather in the ſame year were ſhipped off to the amount of 2,249,000 rubles, and the other exports in the products ariſing from the breeding of horned-cattle, as live oxen and cows, ſalted beef, tongues, and butter, made a ſum of more than 163,000 rubles. The whole value then of all theſe articles in one year was upwards of 6,862,000 rubles, for the moſt part, or entirely gained from the breeding of neat cattle, and in which the wrought-up materials, as ſoap, &c. are not mentioned. So aſtoniſhing an exportation as this confutes all theoretical objections, which entirely loſe their force if we obſerve the riſing proportions of the exports we have juſt been naming†.

Yet, great as the benefit is which Ruſſia receives from this branch of her induſtry, it is not to be

* Hupel's ſtaatſverf. des. ruſſ. reichs, tom. ii. p. 250—517.

† In the year 1768 Ruſſia ſold to the value of 1,115,000 rubles in hides and leather, and tallow amounting to 750,000 rubles. The ſurplus of the exportation of theſe two articles amounted in the year 1793 to 4,563,000 rubles.

denied

denied that it might be greater. All the diſtricts that are adapted to the breeding of cattle are not by far employed to that end; this may particularly be affirmed of the ſpacious plains of ſouthern Ruſſia in which very numerous herds might be ſupported with the utmoſt convenience. The breeding of neat-cattle would be the propereſt employment for the ſcanty population of thoſe diſtricts where the paſtures are richly furniſhed with ſpurry and golden-clover, and the winters are ſhort, and where the ſalted beef, by the navigation of the Euxine, might find an excellent market at Conſtantinople*. Such an increaſe of the horned-cattle would likewiſe augment the production of hides and tallow, which at preſent is inſufficient for the demands of the foreigner, and the preparation of theſe articles would be ſo much the more facilitated, as the former impoſts on tanneries and tallow-melters have been aboliſhed ſince the year 1775. — An important object of national concern is alſo the increaſe of the buffalo, of which there are already conſiderable numbers in the governments of Caucaſus, Ekatarinoſlaf, and

* We are aſſured by profeſſor Pallas, that a good beginning has already been made with this increaſe on the iſland of Taman, and in the confines of the river Yey. The Kozaks of the Euxine have introduced here the large ukraine race of horned-cattle, which thrives ſo excellently that the new breed will ſhortly excel their parents, and bid fair to become in time a great relief to the capital towns. Tableau de la Tauride, p. 43.

Taurida, where the breed of them ought to be encouraged by all poſſible means. This animal is not only much ſtronger and better calculated for labour than the ox, but his hide forms an important article of commerce to Smyrna, and yields the beſt materials for ſole-leather, which Ruſſia annually imports. Cheeſe likewiſe made from buffalo's milk is excellent; and it would be well worth while to make this commodity in the country, rather than continue to pay conſiderable ſums for it abroad *. — By the introduction of the tangutan horned cattle † the ruſſian breed might likewiſe be conſiderably improved. This beaſt, who lives wild in the ſoongarian mountains, and is a domeſtic animal in Thibet and the Bukharèy, affords good beef, yields a good deal of tallow, and gives plenty of rich milk; their calves are eaſily tamed, but the full-grown refuſe to mingle with the common herds. This ſpecies might even become a domeſtic animal in the lower regions of the Don and about the Terek, or perhaps may be ſo already, if according to the ſuppoſition of Pallas, the buffalo which is kept there be only a degeneracy of the tangutan neat-cattle or become more domeſtic ‡.

* Guldenſtædt's akademiſche rede, &c. ſect. 22—38.

† Bos grunniens.

‡ Falk's beytrag, tom. iii. p. 293. Acta acad. Petrop. ann. 1777. tom. ii. p. 10.

The

The BREEDING OF SHEEP is in the ruſſian empire proportionably much greater even than that of neat-cattle; but this department too of productive induſtry is far ſhort of that perfection, to which, by nothing more than an enlightened guidance and a more active exertion of the art of huſbandry, it might attain. Almoſt everywhere the attention is only directed to increaſe the breed of this uſeful animal, without thinking of its improvement, and the immenſe paſtures of Ruſſia that are covered with flocks of ſheep do not ſupply wool enough to enable the country to diſpenſe with the importation of that neceſſary and moſt common material of manufacture. Yet the nomades are richer in ſheep than in any other ſpecies of cattle, and even the boors and Kozaks in ſouthern Ruſſia and Siberia poſſeſs flocks of hundreds and thouſands. The ordinary ruſſian ſheep, particularly in the northern regions, are not very large, are ſhort-tailed, and bear a coarſe and harſh wool, which however is ſometimes intermixed with finer; ſome few provinces are an exception to this, in which attempts have been made to improve this ſpecies by croſſing the breed with better races and by greater care and attendance. The long-tailed tſcherkaſſian ſheep, kept by the Kozaks of the Don and in ſome diſtricts of the Ukraine, yield a better wool: as alſo do the breed found in the governments of Kharkof, Kurſk, Orel, Tambof, Kazan, and ſome others from

which the greater part of the wool for the inland cloth manufactories is fetched. The attempt made by Peter the great to improve the malo-ruſſian flocks by ſileſian ſheep and goats has not been attended with any great conſequence; however the beneficent views of that prince have ſucceeded better in the preſent government of Viatka, where german breeds are ſtill kept by german ſhepherds. The owners of eſtates likewiſe in the provinces of the Baltic cultivate at leaſt for their domeſtic conſumption a better race; but this breed thrives excellently on the iſlands of Œſel and Dagho, where the abundance of nutritious herbs and the ſalt ſea-water are liked by them. The ſpecies found on the laſt-mentioned iſland yield a wool in equal eſtimation with the engliſh, and the half-cloth which the land-owners there weave themſelves is frequently finer and of a cloſer ſubſtance than what uſually comes from abroad. In the white-ruſſian governments they ſeem to have fallen upon a better method of culture; and it is hoped that the ſucceſs which has attended ſome folds of foreign races will operate as an encouragement to the farmers of thoſe parts. Lithuania and Little Poland have for a long time paſt delivered a conſiderable quantity of half-fine wool for exportation, and in the governments of Ekatarinoſlaf and Voſneſenſk the paſture of ſheep forms a main branch of ſuſtenance to the inhabitants. Taurida is ſo rich in ſheep, that common Tartars poſſeſs

1000,

1000, and rich ones 50,000; and at the firſt enumeration, notwithſtanding the preceding war, there were found to be upwards of ſeven millions of that animal on the whole peninſula. Their mutton is every where of excellent taſte; but in regard to the quality of their wool, it is very different according to the ſeveral places in which they have been reared. In the plains they are larger; but here they have a coarſe wool mixed with hair; whereas the lambs of this ſpecies give a curled fur of ſuch value that the ſale of them alone forms an important branch of trade. The ſheep in the mountainous part of the peninſula are indeed ſmaller, but they bear a long, even, ſilky kind of wool, which, if this race were croſſed by foreign rams, muſt in quality be at leaſt equal to the engliſh *.

The kirghiſian and kalmukian ſheep, which with the horſe compoſe the principal wealth of theſe nations, are entirely different from the ruſſian. The former in ſize and uglineſs are not excelled by any wool-bearing animal; they are higher than a new-born calf, and ſo ſtrong and heavy, that the full-grown uſually weigh between four and five pood. In ſhape they reſemble the indian

* Statiſtiſche ueberſicht der ſtaathalt. des ruſſiſchen reichs. Auſwahl œkonomiſcher abhandlungen der freyen œkonom. geſellſchaft in St. Peterſburg, tom. i. p. 205. Friebe. bemerkungen ueber Livland und Eſthland, 157. 298. Pallas, tableau phyſ. et topogr. de la Tauride, p. 41.

ſheep; they have the arched front of the old battering ram; prominent underlips, and large pendulous ears. Inſtead of a tail they have a monſtrous round lump of fat like a cuſhion, weighing between thirty and forty pound, and yielding between twenty and thirty pound of tallow †; by this excreſcence they are generally diſtinguiſhable from the indian ſheep. Their wool is coarſe, entangled together and ſtrongly mixed with hair: the rams are univerſally and the wethers generally horned; ſome are even ſeen, like the icelandic, with four, five, or ſix horns.—Theſe ſheep the whole winter through ſeek their own fodder under the ſnow, which at the ſame time ſerves them for drink, without becoming lean upon it. To this the ſhortneſs of that ſeaſon much contributes, as well as the circumſtance that the ſnow paſſes away more rapidly on the ſalt-places of the ſteppes, and the animals are in a manner fattened by feeding on the vegetables of the ſaline ſoil. It may, perhaps, be owing to the ſame circumſtance that this oriental race of ſheep is become gradually de-

† Wild rove the flocks, no burdening fleece they bear
In fervid climes: Nature gives nought in vain.
Carmenian wool on the broad tail alone
Reſplendent ſwells, enormous in its growth:
As the ſleek ram from green to green removes,
On aiding wheels his heavy pride he draws,
And glad reſigns it for the hatter's uſe.

DYER's Fleece.

generate

generate among the Kirghiſes by the ſuperfluity of fat, and inſtead of a tail have got the clumſy fat lump; which, being now become inveterate, they retain even in other countries. The kirghiſian ſheep generally bring forth two lambs; and, as they live in the ſteppes entirely left to nature, and are conſequently viſited by no diſeaſes, they multiply exceedingly, and the flocks of the Kirghiſes are therefore very numerous. The kalmukian ſheep differ from the kirghiſian in their ſmaller ſize; they preſent likewiſe not ſo curved a front, leſſer though pendulous ears, a leſs hairy wool, and are ſeldom horned. This race is kept up alſo among the baptized Kalmuks, who live among the Ruſſians, as in all places where there are kalmuk rams, and where the flocks graze at full liberty, and even in winter are left to nibble the ſnow without watering them *. As it is ſcarcely to be hoped that the Kalmuks will accommodate themſelves to agriculture with a good will, the eaſieſt and moſt natural method of making theſe people uſeful to the empire, at leaſt ſuch as are converted, would be to introduce among them, inſtead of their wretched ſheep that are only fit for ſlaughter, flocks of a good breed, and try to encourage this paſtoral nation to the ſhearing of wool.

The poliſh coloniſts in the ſelenghinſkian circle of the goverment of Irkutſk keep a number of

* Pallas, travels, tom. i. p. 325. 398.

ſheep of mongolian race, with little fat tails, but are not much larger than the ruſſian. Many of the lambs that are dropped here have fine curled furs, which are ſold to the Chineſe dearer than the famous bukharian. It is the practice with the Poles to wrap up the new-born lambs in linen, which they moiſten every day with warm water, and in this ſtate leave them for a fortnight or a month under the mother, till the tender wool be criſped into little curls. Theſe lambs are immediately killed when the wool is fine enough *.

As the management of ſheep in all countries forms ſo material an object of political œconomy, it will not be improper here to make a few obſervations on the means by which this branch of the national induſtry might be aſſiſted and promoted. In this we muſt look either merely to the augmentation of the numbers of the flocks, or at the ſame time to the improvement of the wool. In Ruſſia the latter ought to be particularly the care of every enlightened and patriotic landlord, as the quantity of ſheep ſeems to be ſufficient for the preſent ſtate of population and the national induſtry. Yet in this too the national wealth might be greatly increaſed; among the tracts of land that are conſpicuouſly adapted to this culture, the mountainous ſteppes along the Sok and the Kinel hold a diſtinguiſhed place. Even the ordinary ruſſian ſheep are here much larger and acquire a

* Pallas, travels, tom. iii. p. 168.

cleaner

cleaner wool *. The gentle elevations, likewiſe, of the valdayan ridge of mountains and the ſouthern uralian and altayan chain, as well as the high and ſaline ground of Caucaſus, Ekatarinoſlaf, and Taurida are in a ſingular manner adapted to the multiplication of this ſpecies of animals; and in the laſt-mentioned province the exportation of the ſalted fleſh ſo much admired by the Turks would be likewiſe increaſed †. — But the moſt material object of attention is the improvement of the inland wool, a product which Ruſſia imports annually, raw and wrought, in ſo prodigious a quantity, that the ſurplus of the commerce is very much leſſened by it ‡.

From the experiments of a ſagacious practical landlord §, who works up the wool produced on his eſtate, genuine ruſſian ſheep, unmixed with foreign races, beſides the coarſe hairy wool, yield a fine ſilky ſort, which with young or full-grown ſheep is equally fine and ſerviceable with the wool of ſpaniſh ſheep. The malo-ruſſian border near

* Pallas, travels, tom. i. p. 97.

† Guldenſtædt's akademiſche rede, &c. p. 36.

‡ In the port of St. Peterſburg alone, the importation of woollen articles in the year 1794 amounted to above 3,114,000 rubles. — Yet of the ruſſian wool no inconſiderable quantity is every year ſhipped off. In the year 1793 this export was 23,797 pood, the value whereof was rated at 45,805 rubles.

§ Lieut. Col. Oſotkin on the improvement and increaſe of the ruſſian wool for fabrics. Auſwahl ökonom. abhandl. tom. iv. p. 145.

upon it; but as the ſilky wool from all theſe ſheep is ſuperior in ſoftneſs, it is at leaſt preferable to the turkiſh and poliſh. According to the ſtatement of the aboveſaid land-owner, it is therefore of not ſo much conſequence to improve the ruſſian ſheep by foreign races as to ſeparate the ſilk-wool by carefully cleanſing it from the hair-wool, ſince the former as it is, and without mixture with foreign kinds of wool, is a very uſeful material for the weaving of cloth. But becauſe there is a great difference even among the ruſſian ſheep, it would be not leſs important, to employ the beſt kind of them eſpecially to the multiplication of this breed. This difference appears not only in the greater or ſmaller proportion between the ſilk and the hair-wool, but alſo in the different lengths of them. A wool in which both are of equal length may be eaſily ſeparated by culling out every hair apart; but the profits on this product would not correſpond with the expence, and as little would this employment repay the trouble, if the quantity of the ſilk were too ſmall in proportion to the hairs. — The beſt kind of ruſſian ſheep are in the ſouthern regions of the Kama and in the territory of Kazan. Here the wool of this animal poſſeſſes every quality requiſite to the being wrought into the cleaneſt and fineſt ſilk wool; with young grown ſheep this grows about the neck and on the breaſt without any mixture with hairs; and even in regard to

growth

growth the ſheep here are larger than uſual in other ruſſian provinces, as in this reſpect they are nearly equal to thoſe of the Ukraine.

But, though this ruſſian wool, after a careful ſeparation, be proper for weaving cloth, yet it is not fit for fine, unfulled ſtuffs, as camblets, chalongs, and the like, for which there is no doing without the fine long wool of foreign ſheep, particularly the ſpaniſh. The introduction and propagation of theſe foreign races is, therefore, a very deſirable object in the general improvement of the country, to which, beſides the reaſons already given, may be added this circumſtance, that by that means the production of this indiſpenſable commodity would be greatly increaſed. A good ſpaniſh ſheep of large growth yields four times as much fine wool as the beſt ruſſian will afford by the moſt careful ſorting.

For the tranſplantation of foreign races into Ruſſia the engliſh and the ſpaniſh breed, which have already been naturalized in Sweden and Germany, will be found to be the fitteſt. The genuine ſpaniſh and engliſh wool is only of uſe in making fine ſtuffs; from their unctuous quality they cannot well be employed in weaving ſtockings and ſtuffs, and as the climate of Sweden and Germany comes neareſt to that of moſt parts of Ruſſia, theſe races, already enured to the northern ſkies, would hold out and thrive the better here. Beſides, the price of theſe animals in thoſe countries

is

is far lower than that they bear in their proper native country. The principles on which ſuch a tranſplantation ſhould be effected are delivered in a very inſtructive manner by the œconomical ſociety of St. Peterſburg, and by the writings of that uſeful body are brought into circulation throughout the empire*. In the remoter governments, where the introduction of foreign kinds of ſheep would be attended with too many difficulties, the native ſpecies might be improved by greater attention and care. The miſerable ſtate of ſheep-breeding in Ruſſia is owing certainly in ſome meaſure to the ſeverity of the climate and the bad paſture grounds. But in far the greater number of diſtricts it is the neglect of proper management that leſſens the value of theſe animals and their products.

GOATS are a very common domeſtic animal not only with the ruſſian country-people, but alſo with the nomadic nations, though the herds of them are but ſmall in compariſon with thoſe of other kinds. The goats of the Kirghiſes are of a ſingular figure; being moſtly unhorned, prettily hung with long hair, generally variegated in ſpots, and having pendulous ears. They are only kept for their milk and their furs. The Kalmuks likewiſe have goats among their herds, but in no

* Beſides the before-mentioned tracts, ſee particularly the prize-paper: von der ſchaafzucht in Ruſsland, in the Auswahl œkonom. abhandl. tom. i. p. 293.

great number; they are entirely like the kirghiſian. — As the fur of theſe animals is profitably manufactured, and partly even exported, the breed of them is no inſignificant object of traffic. It would be of more material conſequence to induſtry if the goat of Angora, whoſe ſhaggy hair, partly ſpun, and partly wove into ſtuffs and ſtockings, forms a conſiderable article of importation, could be gradually propagated in Ruſſia. Theſe animals are natives of Natolia; it would therefore be no difficult matter to bring them over the Euxine, and it is highly probable that they would thrive excellently in the elevated paſtures about Taganrok, Moſdok, &c. Conſiderable profit might likewiſe be derived from the hitherto unemployed flue or down-wool which the goats in Taurida ſhed every ſpring, and which might be got in the winter by combing without any trouble. This down, which for fineneſs and elaſticity exceeds the very beſt wool, is the chief material of which the coſtly ſhawls are wove which are obtained from Kachemir and Thibet. This raw material would find an eaſy ſale in England, where it is in much requeſt and fetches a higher price than ſilk*.

A very uſeful object of ruſſian farming is the HOG, whoſe conſumption is everywhere extraordinarily great. Though there is ſuch good feeding for this animal either in the foreſts and on the fat

* Guldenſtædt's akadem. rede, p. 37. Pallas, tableau de la Tauride, p. 42.

meadows,

meadows, or in the cow-yards and diſtilleries, yet they never grow to any conſiderable ſize, which perhaps is to be accounted for from the climate. In winter the frozen pork and bacon are a main article of food in the northern diſtricts, whence it is alſo tranſported to parts very remote. — The briſtles conſtitute an important article of exportation; in the year 1793, for example, to the value of 742,000 rubles of them were ſhipped off.

We paſs by the other ſpecies of common domeſtic animals and poultry which ſerve only as eatables and are reared for inland conſumption alone. A more remarkable and intereſting object invites our attention, the BEASTS OF DRAUGHT AND BURDEN, of which there is a great and curious variety in the ruſſian empire.

The moſt common as well as the moſt uſeful animal of this claſs is the HORSE, a creature that by its ſtrength and patient fortitude, under every region of heaven, ſeems deſtined to mitigate the effects of that curſe which the levity of the firſt mortal is ſaid to have drawn down upon his whole poſterity. With almoſt all the nations of the earth this animal is the plodding participator in the labours of agriculture, the faithful and bold companion in the ſports of the field and in the perils of war; and in the refined nations of our quarter of the globe is become indiſpenſable to the purpoſes of convenience and luxury. The ruſſian empire produces and feeds great numbers of them;

in the vaſt and fertile ſteppes, which human penury or avarice have not yet made tributary, they ſtill live in the primitive ſtate of nature, in perfect freedom; and even among the nomadic tribes, where they are collected in whole troops, their ſervitude is as light as their ſlavery in poliſhed countries is commonly great.

In the proper ruſſian provinces this breed is ſo general, that we ſeldom ſee a peaſant, however poor his condition, who does not poſſeſs a horſe or two; and, excepting in the Ukraine, this animal is univerſally employed in the works of the field. It is ſomewhat curious that the genuine ruſſian horſe, notwithſtanding the great diverſity of climate, of nurture, of attendance, of provender, &c. is almoſt everywhere uncommonly alike; have all ram-like heads, long and meagre neck, a broad breaſt, and are very compact. There are excellent runners among them; they are indefatigable and hardy, but not handſome, and withal extremely obſtinate and ſhy. In ſeveral regions of the empire this native race has been ennobled by foreign ſtallions, and the governments of Moſco, Tambof, Kazan, Simbirſk, with ſeveral others, produce large, beautiful, and ſtrong horſes. — Lithuania has always ſupplied the cavalry with this neceſſary; a good kind of poney is found in the diſtrict of Archangel, and for their fleetneſs and laſting powers the livonian nags are very famous; but the genuine breed of them begins to be ſcarce.

The

The tartarian horſes are of ſuch known excellence, particularly for the uſe of light cavalry, that this ſpecies needs here no farther deſcription. But the improvements that have been made in Taurida in ſome of the ſtuds by the commixture with turkiſh and arabian horſes, ſo as greatly to improve the native breed, deſerves to be particularly noticed. The race which the Kozaks of the Euxine have introduced into the iſle of Taman and along the river Kuban will far excel the tartarian. The caucaſian horſes are but little inferior to the arabian in regard of beauty, ſpirit, and docility, but the bukharian pye-balls will diſpute the palm with them in regard to the firſt of theſe advantages *. — To theſe moſtly native races, the catalogue of which might be eaſily lengthened, may ſtill be added ſome foreign breeds, particularly the daniſh and engliſh, the propagation of which is greatly attended to in the numerous ſtuds belonging to the crown, and in thoſe of wealthy landlords †.

Among

* Falk's Beytrag. tom. iii. p. 290. Pallas, travels, tom. i. p. 61. 74. 140. Hupel's topogr. nachr. tom. ii. p. 247. Pallas, tableau de la Tauride, p. 41. Ruſſia: or a complete Deſcription of all the Nations, &c.

† Of the governments in which the breeding of horſes is principally attended to, or where they are kept in ſtuds, the principal are Moſco, Kharkof, Kursk, Orel, Niſhney-Novgorod, Simbirsk, Tambof, Voronetch, Kief, Ekatarinoſlaf, Voſneſensk, Bratzlau, &c. Formerly the large horſes for the cavalry were fetched from Pruſſia, Denmark, and other countries; at preſent they are taken out of the ſtuds or brought

up

Among the nomadic tribes the Kalmuks, Kirghiſes, and Baſchkirs poſſeſs the greateſt numbers of theſe animals, doubly neceſſary to them in their rambling mode of life. The kalmuk horſes are high, light-limbed; and, though not beautiful, are not of a diſagreeable form. In point of fleetneſs they by no means yield to any other ſpecies; but they are not ſerviceable as draught horſes, being deficient in force, and by far too furious. Being accuſtomed only to graze upon the ſteppes, it is not poſſible in general to ſucceed with them without regular foddering, but it is difficult to make them take to it; and there is great hazard that, in proportion as their ſtrength increaſes, their furiouſneſs ſhould alſo increaſe. There are Kalmuks who poſſeſs ſeveral thouſand horſes; moſt of the ſtallion-colts they make into geldings, but the ſtallions are never kept apart from the mares, that the proprietor may at no time be in want of milk. — The horſes of the Kirghiſes differ but little from thoſe of the Kalmuks, yet they are uſually of ſomewhat higher growth. Alſo in impetuoſity and fleetneſs they are equal to the latter, and likewiſe accuſtomed to ſcrape up their fodder the whole winter through from under the ſnow. They are divided into troops by their owners, to each of

up in the country. A ruſſian cavalry horſe muſt not, according to the difference of the corps, be under two arſhines two verſhoks, or two arſhines. In ſome of the cuiraſſier-regiments we may ſee horſes two arſhines five verſhoks in height.

which

which is aſſigned only one ſtallion, who plays the ſhepherd as it were over his flock. — But among none of the nomadic people are bred better and larger horſes than by the Baſchkirs, particularly thoſe who dwell eaſtward of the Ural, along the river Iſet. The noble herbage of the ſteppes in theſe regions affords ſuch encouragement to the breeding of horſes, that many individuals among the Baſchkirs poſſeſs from two to four thouſand of theſe animals. The horſes here are doubtleſs very fine, yet the excellent paſtures would greatly improve their ſpecies, if theſe ſhepherds did not deprive the colts of the mare's milk which they convert into an intoxicating liquor, and if they were not too lazy to provide a ſufficient winter ſtock of hay, as the poor beaſts in ſpring, when the melted ſnow freezes again, are almoſt deſtitute of food*.

Amidſt all this actual ſuperfluity which Ruſſia poſſeſſes in horſes, the importation of theſe animals yet forms no inconſiderable rubric in the cuſtom-houſe liſts of the Baltic-ports. In St. Peterſburg alone are brought in of them annually to the amount of 120,000 to 130,000 rubles; to what then may it not amount through the whole country? If, however, only the half of them were adapted to improve the native breeds, this eſtimate would require no animadverſion, as the benefit that might thus accrue to Ruſſia would

* Pallas, travels, tom. i. p. 325—396. tom. ii. p. 75.

far

far outweigh the diſadvantages ariſing from a luxury eaſily pardonable as proceeding from a uſeful taſte.

It would be difficult to point out a people that underſtand how to manage horſes ſo well as the Ruſſians. Almoſt every boor is at once carter, driver, and horſeman; and the care of the poſt, as well as the vehicles for the purpoſe of conveyance, conſtitute a primary buſineſs and an important branch of gain to the country people in moſt diſtricts. In the common Ruſſian the love for his horſe forms a curious contraſt with his ſeverity in the treatment of him. Accuſtomed himſelf to harſh demands, he never fails to make the ſame upon his horſe, and in caſe of need to enforce them with unmerciful ſeverity. The rapidity with which they travel in Ruſſia is become proverbial even in other countries; but when we are informed that the poſt-ſtations here are very far aſunder, and that it is exceedingly common to paſs two or three of them with the ſame horſes with unabated ſpeed, we may reaſonably be aſtoniſhed at the ſturdineſs of the ruſſian horſes and the inſenſibility of their owners. In the hard works which uſually fall to the lot of theſe animals, their provender is often very ſcanty, and on violent exertions in performing a day's journey, a bit of black bread or a hard biſcuit is their only refreſhment. But the Ruſſian likewiſe knows how much he can put upon his horſe, without entirely exhauſting his ſtrength,

and the providing for his health and attendance is of the greater conſequence to him as frequently he is the whole of his property.

The cattle of the nomades conſiſts chiefly in horſes, as moſt of their neceſſaries are ſupplied by this animal. They obtain from them not only meat, milk, and cheeſe, but even ſpirituous liquor, ſkins for their clothing, ſinews for ſewing, &c. In theſe large droves the horſes are moſtly half-wild; they keep together in troops, each of which having ſeveral mares under one, at leaſt one paramount ſtallion, who ſeems the guardian and protector of the whole multitude, keeps the droves together, is attentive to every danger, notifies it to them by neighing, and in caſe of extremity, while the drove preſs quietly together, goes forth to meet the foe, and begins the fight in defence of the company under his protection *.

There are diſtricts in Ruſſia where this ſerviceable ſpecies is even found WILD; though probably the horſes running about at large in the donſkoi, the uralian, and the barabinzian ſteppes do not form a peculiar race, but have ariſen from ſtrayed ſtallions belonging to the paſtoral nations, who have either ſeduced ſingle mares or whole droves, and propagated in the uninhabited wilderneſſes. In their preſent ſavage ſtate, though they reſemble on the whole the little ruſſian horſes, yet they have thicker heads, more pointed ears, a ſhort

* Falk's beytr. tom. iii. p. 289.

curly

curly mane, and a ſhorter tail. Their ordinary colour is light bay, others are rare. They aſſociate in companies from five to twenty together, uſually conſiſting of a family of one ſtallion with ſeveral mares and colts. When the young male colts are grown up, the old ſtallion drives them from the herd, following them however, for ſome time till they are ſtrong enough to get themſelves a retinue of young mares. Theſe wild horſes keep the whole year round to the well-watered mountainous ſteppes; in winter ſeeking their food on the heights where the ſtormy winds prevent the ſnow from lying deep. From all the attempts that have hitherto been made, to tame them is utterly impoſſible; on being confined, they either effect their eſcape, or ſtarve themſelves to death. The Tartars and Kozaks therefore conſider them in no other light than as objects of chace, and kill them for the ſake of their fleſh, which is a choice diſh with moſt of the nomadic tribes. The chace of them, however, is very difficult, as they are not only exceſſively fleet, but have withal ſo nice a ſcent, that under the wind they can ſmell the men at the diſtance of ſeveral verſts, and then immediately take to flight *.

The ASS, that creature endowed with uſeful though not ſhining qualities, and decryed for defects of little conſequence, is a domeſtic animal in very few parts of Ruſſia, but one of thoſe is Tau-

* Pallas, travels, tom. i. p. 211. tom. iii. p. 510.

rida. The great utility of the aſs, whom modern prejudice has undervalued in the eſtimation of mankind, would well repay any attempts that might be made to extend the breed of this contented animal, at leaſt in thoſe tracts where the want of paſture is in oppoſition to the multiplication of the horſe. — The zoology of the ruſſian empire has two remarkable animals to produce, both apparently belonging as well to the equine as to the aſinine race, and yet eſſentially diſtinct from the mongrel breed of mules. The firſt, which by the Mongoles is called DSHIGGETEI, or long-ears, roams troopwiſe in the mongolian ſteppes, about the lake Ural and in Taurida; but within the ruſſian borders, ſince the conſtruction of the frontier-poſts, is become much more rare. In beauty of form he far exceeds the aſs and even the mule; being of ſlight make, ſlender limbs, a beautiful colour, and a wild lively look. The ears too, which are in juſter proportion than thoſe of the mule, and which he bears briſkly erect, become him much; and, with ſo many outward advantages we are almoſt inclined to overlook his rather clumſy head and his little aſinine hoofs; only the ſtraight angular back and the ugly cow-tail, which he has in common with the aſs, disfigure this elegant animal. The ſwiftneſs of the dſhiggetei, which by undeniable accounts, tranſcends all deſcription, is proverbial among the Mongoles. No horſe, how fleet ſoever he may be, has ever yet been

been able to overtake the dſhiggetei in the courſe, and there is no other way of taking him than by ſtratagem, or by lying in ambuſh for him. Were it poſſible to tame this animal, there could not be found in the world ſo excellent a nag; but they are ſaid to be unconquerably wild. Indeed it would be ſurpriſing if the Mongoles and other aſiatic nations in ſo many centuries ſhould never have fallen on the thought of rearing young colts, which often enough come into their power, and getting out of them a better breed. In the mean time it would be worth the pains to make a uſeful and not entirely hopeleſs trial with very young foals, which ſhould be caught within a few days after their birth. If the government gave orders to this effect, it would be an eaſy matter to have ſome caught in the ſteppes by the Tunguſes on the frontiers; and ſhould by this means a new and by their fleetneſs ſo uſeful a ſpecies of domeſtic animal be obtained, the trifling rewards that might be beſtowed for the advancement of this project, would not certainly be thrown away. — One other animal which ſeems to form a middle ſpecies between the horſe and the aſs, is the KHULAN, which Pallas holds to be the onager of the antients, and which is exceedingly fleet, and likewiſe of an untamable ferocity. The khulans go in monſtrous droves, eſpecially in ſpring, when they take their migration northwards from the Ural, reſorting to open and cool mountains; or in autumn, when

they return to the warm regions of Perſia and India *.

In ſome provinces of the ruſſian empire the CAMEL is likewiſe of the number of domeſtic animals: among the european governments this is particularly the caſe in Taurida. Here is found the two-humped camel, which the count de Buffon improperly terms the dromedary, and his breed might be cultivated to great advantage in the ſaline plains of this peninſula, eſpecially if the white ſpecies were to be introduced, whoſe wool may be better and more eaſily coloured. Beſides, this animal may be of uſe to the army, for tranſporting the artillery in the heavieſt roads, and if it were thought expedient to employ them in battle, there would be no difficulty in putting cavalry of the enemy to flight, it being a well known fact that the horſe, if not accuſtomed to the ſight of the camel, immediately turns tail and gallops off at full ſpeed †.

The nomadic tribes, by whom this ſerviceable animal is kept in herds, are the Kirghiſes, Baſchkirs, Buræts, Kalmuks, and Mongoles. As this is the laſt time that we ſhall have occaſion to ſpeak of the Kirghiſes, we will here ſtate the proportion in which the ſeveral kinds of animals are found among the nomades. A common herdſman keeps not often fewer than thirty to fifty horſes, half as

* Pallas, travels, tom. iii. p. 217. 511.

† Pallas, tableau de la Tauride, p. 40.

many

many neat-cattle, about a hundred ſheep, ſeveral camels, and from twenty to fifty goats. Yet there are men, particularly in the middle horde, who poſſeſs as far as ten thouſand horſes, three hundred camels, between three and four thouſand head of horned cattle, twenty thouſand ſheep, and above a thouſand goats*. The camels thrive in the warm and ſalt ſteppes of the Kirghiſes uncommonly well, and they are either of the ſingly gibbous or the doubly gibbous kind; the former can endure thirſt longer, and are therefore fitter for diſtant journies, but the latter yield more and better wool. As theſe animals multiply but ſlowly †, and moreover are very weakly, the breeding of them requires a particular care and attention. In winter they are ſewed up in felt-cover-

* Ruſſia: or a complete deſcription of all the nations that compoſe the ruſſian empire, art. Kirghiſes. Pallas ſays that in general horſes and ſheep are the moſt numerous part of their ſtock; that they poſſeſs camels in a far leſs number, and are the worſt provided with horned-cattle, as they cannot well ſupport themſelves on the ſteppes in winter without regular provender; tom. i. p. 396. This ſeems in ſome meaſure to contradict the above ſtatement.

† It is uſual to couple the camels in February, about which time they are moſt in heat. The female is habituated to fall on her fore-knees at the word, "Tſhuck!" whereas the male ſeats himſelf on his hinder knees. When a female camel is pregnant, ſhe no longer admits the male; and, as ſhe goes with young twelve months, and ſuckles her foals two years, it is very natural that the multiplication of this animal ſhould go on but ſlowly. Pallas, travels, tom. i. p. 397.

ings; or, if the cold be ſevere, ruſh mats are extended about them and between the tents for their protection. The foals are very early taught, at the ſpeaking of a certain word, to fall down on the fore-knees, and at the ſame early age the partition of the noſtrils is pierced, through which a cord is paſſed for the purpoſe of guiding them. The camels are exceedingly uſeful to the Kirghiſes in their houſekeeping. On removing the camp they are the beaſts of burden; on them the yourts and furniture are packed, the load whereof however muſt not exceed thirty, and when the journey is long, not ſixteen pood. A two-bunched camel yields annually ten or twelve pounds of wool, which is partly wrought up by the Kirghiſes themſelves into ſtuffs and ropes, and partly ſold into Ruſſia and Bukharia. From the milk of theſe animals, which is very pleaſant to the taſte, the Kirghiſes make their butter, cheeſe, and ſpirituous extract, which they call kumiſs. The fleſh is eaten, and the ſkins ſerve for leather veſſels to keep their milk in *.

Among the Kalmuks and Mongoles likewiſe are both one and two-humped camels; and, as the ſteppes in which theſe people at preſent nomadize, on account of the variety of ſaline herbs, are very favourable to the breeding of cattle, in ſo great a number, that they not only have enough for their

* Ruſſia: or a complete deſcription, &c. art. Kirghiſes.

own

own conſumption, but they frequently bring them to Orenburg, and barter them to the Bukharians. Among the Baſchkirs and Buræts theſe animals, in conſequence of frequent diſeaſes, are greatly diminiſhed, and likewiſe the ſevere winter in the regions inhabited by theſe tribes is prejudicial to them *.

The REIN-DEER, which we have already ſpoken of as an object of chace, is as a domeſtic animal a very uſeful creature among the Laplanders, the Samoyedes, the Oſtiaks, the Koriaks, the Tſchuktſches, the Tunguſes, the Yakutes, and with ſeveral tartar ſtems in Siberia, and in this twofold character perhaps the moſt uſeful of all that we have hitherto mentioned. The breeding of theſe animals conſtitutes not only the main employment but even the whole wealth of the above-named tribes, and the uſes to which they are put are ſo extenſive and various that no other tamed animal can be brought into compariſon with them. Beſides that they are the only cattle for draught and burden made uſe of by the northern nomades for riding, carrying, and drawing, their fleſh is alſo the ordinary food, their milk the moſt nutritious beverage, and the cheeſe prepared from it the beſt reliſh to the taſte of theſe people. The hides furniſh the chief material of clothes and of covers to the yourts, the fur is made into warm clothes and mattraſſes, the horns and bones into houſhold

* Pallas, travels, tom. i. p. 326. tom ii. p. 76.

utenſils,

utenſils, and the ſinews into twine. But what infinitely enhances the utility and the local value of theſe animals, is their contentedneſs, and the little attendance neceſſary to their preſervation. Without being houſed they thrive in climates where no other domeſtic animal can ſubſiſt; without being foddered they maintain themſelves on a ſoil, which for ten months in the year is covered with ſnow and ice; a little moſs, which they ſcratch up from below this froſty mantle of the earth, is their ordinary food, and the ſnow that they lick up allays their thirſt. Endowed with ſuch properties as qualify the rein-deer to be the ſole nurſe and companion of man in thoſe rude regions where the whole creation ſeems to refuſe him ſuccour, they all would have been of no avail but for the benign inſtinct to the greater multiplication of his ſpecies, without which this uſeful animal would perhaps long ago have been extinct. Accordingly, from the indiſpenſable ſuccours he affords, he is held in ſuch high eſteem with the nomades, that they borrow their nobleſt ſimilies from him; nothing, for example, can more honour a Samoyede than to call him a rein-deer gelding. The herds that are kept by theſe ſeveral tribes are conſiderably various according to the proportion of their induſtry and their wealth. Among the Laplanders ſix hundred to a thouſand rein-deer compoſe the ordinary fortune of a ſingle herdſman: with the Samoyedes that man is already rich who poſſeſſes

from a hundred to a hundred and fifty of them. A farming Tunguſe keeps a thouſand perhaps; a Koriak ſeveral thouſands; but among the Tſchuktſches there are herdſmen who have herds of ten to fifty thouſand rein-deer *.

In concluding this ſection let us not omit a race of animals, which, though forming in all countries a part of the domeſtic animals, yet in Ruſſia alone is applied in an extremely curious manner to the ſervice and accommodation of mankind It is the DOG, of whom numerous packs are found with almoſt all the nomadic nations, and are uſed for draught particularly by the Kamtſhadales and the Oſtiaks, by the eaſtern Samoyedes, the Tunguſes, and by ſome ſtems of the Mandſhures: an employment to which they are deſtined even among the Ruſſians in the government of Irkutſk, where in ſome diſtricts they ſupply the place of poſthorſes. But no-where is the breed of this animal of ſuch importance and neceſſity as in Kamtſhatka †, where they conſtitute the only ſpecies of tame domeſtic animals, and where it is as impoſſible to diſpenſe with them, as in other countries with horned cattle or the horſe. The kamtſhadale dogs are in ſize and ſhape little different from the large ruſſian boor-dog; but their man-

* Ruſſia: or a deſcription, &c. under the ſeveral heads.

† Steller's beſchreibung von Kamtſchatka, p. 132—140. p. 370—374.

ners

ners are almoſt totally changed by their courſe of training, diet, and treatment. They are held to be the beſt and moſt long-winded runners of all the ſiberian dogs, and their ſpirit is ſo great that they frequently diſlocate their joints in drawing, and their hair is often tinged with red from the extravaſation of blood occaſioned by violent exertions. They poſſeſs ſo much ſtrength that four of them, which are commonly harneſſed to a ſledge, draw with eaſe three full-grown perſons with a pood and a half of baggage. The ordinary loading of four dogs amounts to five or ſix poods, and a ſingle man can in this manner, in bad roads, go thirty or forty, but in good roads eighty to a hundred and forty verſts a day. The deep ſnow which the dogs run over without breaking in; the ſteep mountains and narrow paſſes in the vallies; the thick impaſſable foreſts; the numerous ſtreams and brooks that are either not at all or but ſlightly frozen over; the ſtorms which drift the ſnow and efface every veſtige of a track: — all theſe circumſtances together would prevent the travelling with horſes, had they ever ſo many of them, in winter at leaſt; and it is therefore very probable that the dog, even under the higheſt pitch of civilization to which Kamtſhatka can ever attain, would be always the principal and moſt ſerviceable animal for draught. Accordingly the taſte for dogs is here as great as elſewhere it is for

for horſes, and conſiderable ſums are not unfrequently expended in the purchaſe of them and on the elegance of their trappings.

The manner in which theſe animals are trained to their ſingular employment has ſo powerful an influence on the individual properties of the whole ſpecies, that the deſcription of it will not be unintereſting even to the philoſophic reader. For proper draught-dogs the choice is principally made of ſuch as have high legs, long ears, a ſharp muzzle, a broad crupper, and thick heads, and diſcover great vivacity. As ſoon as the puppies are able to ſee, they are thrown into a dark pit, where they remain ſhut up till they are thought ſufficiently ſtrong to undergo a trial. They are then harneſſed with other trained dogs to a ſledge, with which they ſcamper away with all their might, being frightened by the light and by ſo many ſtrange objects. After this ſhort trial they are again confined to their gloomy dungeon, and this practice is repeated till they are inured to the buſineſs of drawing, and are obedient to their driver. From this moment begins their hard and miſerable courſe, only alleviated by the ſhort recreation the ſummer affords them. As in this ſeaſon they are of no ſervice, nobody cares about them, but they enjoy a perfect liberty, which they principally employ in aſſuaging their hunger. Their ſole nouriſhment conſiſts of fiſh, which they watch for all this time by the brinks

of rivers, and which they catch with great dexterity and cunning. When they have plenty of this food, like the bears, they devour only the heads, and leave the reſt behind.

This reſpite, however, laſts only till October, when every proprietor aſſembles his dogs, and ties them up in a place adjoining to his dwelling, where they muſt be kept on ſpare regimen, to bring down their ſuperfluous fat, that they may be rendered more fit for running. With the firſt fall of ſnow commences their time of torment; and then day and night is heard their dreadful howling, in which they ſeem to bewail their miſerable fate. With the hard lot theſe animals have to bear the winter through, their food conſiſts only of ſoured or dried fiſh in a ſtate of corruption, and even this they are only allowed as the better diet, to refreſh and invigorate them, as it is obſerved that they become nice and more eaſily tired on receiving this delicacy ſhortly before they ſet out on a journey. Their ordinary ſuſtenance is mouldy dried fiſh, a treat at which they can ſeldom ſatisfy their appetite without bleeding jaws, as the greater part of it conſiſts of bones and teeth. This hard uſage, however, they generally revenge by their amazing voracity, which ſpares no object on which they can lay hold. With thieviſh artifice they mount the ladder to the aërial cupboard of their tyrannical maſter; with unnatural greedineſs they prey upon his thongs,

thongs, ſtraps, and leathers, wherever they find them; and the depravity of their taſte is ſuch, that rarely can a Kamtſhadale incline in obedience to the ignobler calls of nature, without firſt arming himſelf with a whip; as at all times a ravenous pack is ready to contend even to blood for his loathſome leavings.

Not only in their voracity, however, but in the whole individuality of their brutal behaviour this depravity is ever conſpicuous. Inſtead of the vigilance, fidelity, and attachment which the dog everywhere ſhews for his feeder, and therefore has in all nations been made the ſymbol of theſe virtues, the kamtſhadale dog has aſſumed the character of a crafty ſlave. Sly and unfriendly he ſhuns the look of his maſter; unconcerned about the ſafety of his property, he will not ſtir to defend it againſt a ſtranger. Timid and ſullen, he ſneaks prowling alone, ſtill leering on every ſide from ſuſpicion. It is only by artifice and deceit that they can be harneſſed to the ſledge; while this is doing, they all ſtretch their heads upwards, and ſet up a melancholy yell, but as ſoon as the ſledge is in motion, they are ſuddenly mute, and then by a hundred artful tricks ſeem to vie with each other to weary the patience of the driver, or reſolved to bring his life into jeopardy. On coming to a dangerous place they redouble their ſpeed; where, to avoid being precipitated down a ſteep mountain, or plunged into a deep river,

he

he is commonly forced to abandon the ſledge, which ſeldom fails of being broken to pieces, and he only finds it again at the next village, if the dogs have not been ſo lucky as to ſet themſelves free outright.

Yet the dog of Kamtſhatka, though ſo degenerate from the reſt of his kind, is not deficient in qualities by which he may be ſerviceable to man when he pleaſes. Beſides the advantage of being able with theſe light creatures to traverſe the trackleſs mountains, and proceed along the ſurface of deep ridges of ſnow, they are alſo excellent guides on the dreary way; as in the moſt pitchy darkneſs, and in the moſt tremendous ſtorms of ſnow they find out the place for which their maſter is bound. If the ſtorm be ſo violent that, unable to proceed, they muſt remain on the ſpot, as not unfrequently happens, the dogs lie by the ſide of their maſter, and preſerve his life by their natural warmth. They likewiſe give infallible notice of approaching ſtorms, by ſcratching holes in the ſnow and endeavouring to ſhelter themſelves in them. By theſe, and many other good qualities, the Kamtſhadale dogs by far overbalance the miſchiefs they do by their perverſity; and to what other cauſe than the tyrannical treatment they receive from hard-hearted man is the blame of this perverſity to be aſcribed? Great as their rogueries may be, they ſcorn compariſon with the cold and ſelfiſh ingratitude which theſe degraded animals,

animals, chained to perpetual bondage and ſtripes, endure from mankind. Scarcely has the kamtſhadale dog, worn out by the weight of his bodily ſufferings, arrived at a premature old age, in which he is unfit any longer to draw, than his inexorable maſter exacts of him the laſt ſurrender he is able to make—his ſkin; and the ſame cruelly treated ſlave, who, during his ſhort and painful life, has ſo often imparted his animal warmth to his mercileſs tyrant, affords him the ſame ſervice and in the ſame manner even after his death.

SECTION IV.

Agriculture.

HAVING in the former ſections delineated the mode of life and branches of buſineſs which are common to ALL the tribes of the ruſſian empire, and in which chiefly the rude and half-ſavage of them participate; we now proceed to thoſe employments which belong excluſively to more poliſhed nations.— No period in the civilization of a people is more important and deciſive than that of their tranſition from the paſtoral life to AGRICULTURE, or from the wandering nomadic to the ſedate civil conſtitution, which determines the boundary between civilized and barbarous nations. Nay, it is agriculture that fixes man to

the portion of earth which he has moiſtened with the ſweat of his brow, and has been rendered ſerviceable by the labour of his hands; by it mankind are brought together, and held in a numerous and laſting connection; it is the fruitful bud whence are unfolded the praiſed and diſputed advantages of the ſocial ſtate and ſuperior cultivation. Property now, by the increaſed difficulty of acquiſition, obtains a higher value; and the ſecuring of it againſt the attacks of artifice or violence gave birth to laws. Inſtead of the inſulated and independent exiſtence of the herdſman, who receives from his flocks all the neceſſaries of life, the huſbandman enters into the ſtate of mutual dependence with others, whoſe ſuperfluity muſt ſupply his deficiency. Hence ariſes barter, the conſequences whereof have incalculable influence on the civilization of mankind; and thus agriculture is the ſource of the civil conſtitution, without which the nations would be called ſavage, —and commerce, without which they might be deemed barbarous.

Of the multitude of nations which the ruſſian empire numbers as its inhabitants, are ſeveral ſtill far diſtant from this degree of civilization, and ſome whoſe inhoſpitable ſoil and brazen ſky reject the hopes of their attaining it for ever. In this latter caſe are particularly the Laplanders, the Samoyedes, the Oſtiaks, the Tunguſes, the Kamtſhadales, the Koriaks, the Tſchuktſches, and the eaſtern

eaſtern iſlanders. Not much better provided for by nature are a great part of the ſiberian Tartars; and even the warm, but arid and ſaline ſteppes of ſouthern Ruſſia oppoſe inſurmountable obſtacles to the introduction of agriculture among the nomadizing nations there. This alteration of manners has been more ſucceſsfully brought on among the european and ſouthern ſiberian Tartars, the Tſcheremiſſes, Tſchuvaſches, the Votiaks, the Mordvines, the Baſchkirs, the Meſchtſcheriæks, and other nations of the middle regions, who for the moſt part only forſook the nomadic way of life on their ſubmiſſion to the ſovereignty of the ruſſian empire. This has been the caſe from time to time with ſeveral detached ſtems, eſpecially ſince the government endeavoured by ſuitable meaſures to encourage the diſſemination of the practice of agriculture, and ſince the partitioning of the former large governments has limited the governors to a ſphere of operation more contracted, and of courſe more eaſily to be inſpected. Accordingly ſometimes we ſhall ſee tribes, of which ſeveral ſtems are entirely devoted to agriculture, while others are ſtill attached to the chace, or to the nomadic mode of breeding cattle: others again halt in a middle ſtate bordering on both theſe ways of living; in winter, for inſtance, inhabiting permanent villages, but dwelling in ſummer in moveable yourts, with which they roam about the moſt excellent paſturages. Where the

ſoil and the climate are favourable to agriculture, even nomadic people accuſtom themſelves ſometimes, as excited by example and encouragement, to this laborious but ſecure branch of ſuſtenance, and ſeveral of them, who leſs than a century ago were indolent herdſmen, have formed themſelves now into induſtrious and diligent farmers. There are few diſtricts in Ruſſia where agriculture is more ſedulouſly proſecuted than in the tracts about the Kama and the Volga, inhabited by Tartars, Votiaks, and Tſcheremiſſes, who ſeem to contend in a laudable emulation to outvie one another in the culture of their grounds, and deem it an honour to poſſeſs a ſtore of corn untouched*.

Of the nations who have followed agriculture from time immemorial, though in various ways and with different ſucceſs, the principal are the Ruſſians, the Poles, the Lithuanians, the Lettes, the Finns, and Eſthonians. As the firſt of theſe compoſe the chief and the moſt numerous part of the inhabitants, we ſhall in the preſent ſection make ruſſian agriculture, the baſis of our deſcription, and only notice by the way the moſt ſtriking differences that appear in the other tribes: and, as ſo conſiderable and comprehenſive a ſubject cannot be treated without a certain attention to method, our inquiry ſhall firſt be directed to the adaptation of the ſoil to the purpoſes of agriculture;

* Pallas, travels, tom. iii. p. 491.

then

then to the manner in which it is generally carried on; and, laſtly to the principal products accruing from it, either for home conſumption or for the uſes of commerce. The reſult of theſe ſeveral facts will ſupply us with matter for general reflections on political œconomy, the combination whereof will form the concluſion of the preſent narrative.

The ſtate of agriculture in all countries, alike depending on the nature of the ſoil and climate as on the diligence and induſtry of the inhabitants, the NATURAL DISPOSITION of the country for this ſpecies of culture is properly the firſt object of our inveſtigation. The great expanſe of the ruſſian empire, and the diverſity of climate and territory thence ariſing, cauſe ſuch a variety in the employments of rural œconomy, that in this reſpect we can only adopt a very general diſtribution for our rule, if we would not loſe ourſelves in boundleſs details, ſince almoſt every government in its natural quality is ſubject to very great, and ſometimes extremely ſtriking, variations.

TOTALLY UNFIT for every kind of œconomical culture are the moſt northern and eaſtern diſtricts of the empire, of the former particularly in Siberia. Here we may regard the ſixtieth degree of latitude as the boundary beyond which no agriculture is practicable. According to Pallas's account, to the north of Demianſk, (a borough in the government of Tobolſk, lying in about 59½

deg. north lat.), hardly anything is raiſed but barley and oats; at moſt a little ſummer grain. Hemp or flax are ſeldom ſown, and in three years they ſcarcely have once a tolerable crop: the cabbage here produces no head, but ſpends itſelf in looſe green leaves*. Farther to the eaſt the parts lying under the ſame latitude are ſtill more unfit for agriculture. The repeated attempts that have been made about Okhotſk (between 59 and 60 deg. north lat. and 160 deg. eaſt long.) and Udſkoy-oſtrog 55° 20′ lat. 150° 40′ longit.) in the government of Irkutſk, ſhew, that the ſummer is here too ſhort, that the earth remains too long frozen in ſpring, and that the night-froſts in autumn come on too early for allowing us to hope that the culture of corn will ever be introduced to effect: even in Kamtſhatka, where the ſouthernmoſt cape, however, runs out to 51° north lat. ſimilar trials have been made, but with very poor and precarious effects†. In the european or weſtern parts of the empire, indeed, the fruits of the field and the orchard have been produced in the ſixtieth degree of latitude by a laborious and difficult proceſs; but the circles in the governments of Olonetz and Archangel, which lie from two to three and a half degrees higher to the north, have likewiſe no agriculture; and, even in ſome diſ-

* Pallas, travels, tom. iii. p. 15.

† Auſwahl. ökonom. abhandl. tom. iii. p. 15.

tricts

tricts of Vyborg, St. Peterſburg, Novgorod, Vologda, Perme, and Viatka, it is attended with great and deterring difficulties. Now, by ſetting off theſe differences of the weſtern and eaſtern parts of Ruſſia againſt one another, and conſequently admitting the ſixtieth degree of latitude as the general boundary of the ſoil ſuſceptible of culture to the north, it follows, that the ruſſian empire contains about 162,000 ſquare geographical miles of land totally unſerviceable to the purpoſes of agriculture.

Beſides the foregoing northern governments, ſome of the ſouthern diſtricts of Caucaſus, Saratof, Ufa, Kolhyvan, Ekatarinoſlaf, and Taurida, are of a SERVICEABLE BUT POOR ſoil, where the natural impediments are very difficult to be conquered, and perhaps never can be entirely ſurmounted. The former, beſide great bogs, moraſſes, and foreſts, have generally a moiſt and ſandy ſoil, the ſlender fertility whereof is ſtill more impeded by the long hard winter, and by the frequent and ſudden changes of weather. In the latter are generally ſeen large plains or ſteppes, which being alſo of a ſandy or ſaline ſoil, are not ſeldom entirely deſtitute of water and wood, and therefore juſt as little ſuited to the culture of corn. To the FERTILE regions belong moſt of the governments of the middle, and ſeveral of the northern tracts; but the BEST AND MOST PRODUCTIVE ſoils are chiefly found in Little-Ruſ-

ſia, Kazan, Simbirſk, Kharkof, Kurſk, Orel, Niſhney-Novgorod, in the ſouthern part of Taurida and Caucaſus, in the newly-acquired portion of the poliſh Ukraine, and particularly alſo in ſome of the ſiberian provinces. That even here the fertility is not everywhere alike, is as little in need of a remark as the circumſtance, that there are particular diſtricts, beſides the ſaid governments, which for quality of ſoil by no means fall ſhort of them; but the circumſtantial deſcription of which would lead us far beyond the preſcribed limits of our plan.

The natural riches and great fertility of the diſtricts bordering on the Volga, the Kama, the Dniepr, the Terek, and the parts about the Euxine, &c. have long been experienced over all Europe; yet the prejudice entertained in other countries againſt the natural quality of Siberia is ſo general, that it will excite no ſmall ſurpriſe in many of our readers at ſeeing the following deſcription of the ſhores of the Yeniſſey, ſupported upon very ſubſtantial authority.

In the territory of Kraſnoyarſk, a circle-town of the government of Kolhyvan, between the 55th and 56th degrees of north latitude, the fertility of the ſoil, notwithſtanding the rather ſevere and continued winter, is ſo great that no inſtance has ever been known of a general failure, and that it is a very ordinary harveſt when the ſummer-rye yields tenfold, the winter-corn eightfold, and the barley

barley twelvefold. It is uſual for the wheat only in bad years to yield the ſixth grain, and the oats give in that caſe rarely ſhort of twentyfold. The buck-wheat muſt only, on account of the richneſs of the ſoil, be committed to hungry lands, as otherwiſe it runs into ſtalk, and yet yields a reaping of twelve to fifteen fold. This quality of the ground, which is generally a black and light mould, both on the elevations and in the flat valleys, abſolutely rejects the uſe of manure, which would only corrupt the ſeed, as has been found by experience. And yet the generality of the fields, if they are only left fallow about the third year, continue fit to bear ten or fifteen years and more; if then the fertility declines, the boor in that caſe finds excellent mountain-flats and ſteppes enough, where he can lay out new fields. — In conſequence of this exuberance proviſions are here in great plenty, and probably in no province of the empire are they at ſo low a price. When Pallas was at Kraſnoyarſk, a pood of rye-meal ſold for two or three, and a pood of wheaten flour for four and a half or five kopeeks; a whole ox was bought for a ruble and a half, a cow for a ruble, and a good ſerviceable horſe for two or three rubles at moſt; ſheep and hogs fetched from thirty to fifty kopeeks a-piece*. In the ſpace of five-and-twenty years that have elapſed

* Pallas, travels, tom. iii. p. 5—7.

ſince

ſince that period, the prices have indeed conſiderably altered, yet this country is ſtill one of the cheapeſt as well as one of the moſt yield and plentiful of all. — Though theſe inſtances of fruitfulneſs are among the moſt ſtriking, yet proofs are not wanting in other tracts of Siberia, that this country, ſo amply and ſo variouſly endowed by nature, only requires a larger population for enabling it to produce from itſelf moſt of the neceſſaries of life in the greateſt abundance.

As Nature, with ſuch maternal care, comes in aid of the ruſſian countryman, in by far the generality of the tracts of country that are ſuſceptible of culture, it is no wonder that here as much is done with little pains and imperfect implements, as in other countries can be obtained by a laborious tillage and with artificial means. In fact, the MANNER IN WHICH AGRICULTURE IS CARRIED ON IN RUSSIA, taken in the whole, is ſo artleſs and ſimple as to need no prolix deſcription for communicating to foreigners a competent idea of it. But, ere we can explain the proceſs of the countryman himſelf, we muſt briefly take notice of the IMPLEMENTS OF HUSBANDRY of which he principally makes uſe*.

* Hupel's ſtaatſverf. tom. ii. p. 560. Lepechin's travels, tom. i. p. 40. Georgi, beſchreib. des St. Petersb. gouvern. p. 576. Guldenſtædt's travels, tom. ii. p. 480—493.

The

The commoneſt kind of PLOUGH is the light fork-plough or hook-plough, called in ruſs ſocha, which is employed not only in moſt of the great-ruſſian and ſiberian provinces, but alſo in the governments ſkirting the Baltic*. It is without wheels, has two ſhort plough-ſhares, which are faſtened to a forked board, and is uſually drawn by one horſe or by two oxen; it is ſo light that it can be conveniently held by a lad of fifteen; and the horſe, whoſe exertion in general is but ſmall, goes commonly without reins, and thus leaves the lad with both hands free. This plough bites not deeper than ſomewhat about a verſhok, or 1¼ engliſh inches, in the ground, and is therefore only employed in ploughing the old arable lands; turf and new grounds are turned up by what is called the knife-plough, koſſulia, chiefly differing from the hook-plough by bearing half a verſhok deeper into the earth, and is fitter for cutting the little roots. In ſome parts for the ſame purpoſe they fix, inſtead of the two irons, a knife-blade in the plough-frame, cutting with it firſt the turf through, and then, by means of the proper forked-plough, turning it up, at which time the plough-

* A deſcription and drawing of this fork-plough, which Pallas calls the hook-plough, may be ſeen in Guldenſtædt's travels, tom. ii. p. 490; and, as it is uſed in Livonia, in hup. top. nachrichten, tom. ii. p. 275. In ſome of the ruſſian provinces, though it is ſomewhat differently conſtructed, yet the differences are not material.

man muſt turn it over with his foot, as the plough does no more than raiſe it. For all other kinds of ground, even ſtony or full of tree-roots, the fork-plough is very uſeful. — This implement of huſbandry has found as many advocates as diſapprovers, ſince farming has been treated theoretically in Ruſſia, and the ſuffrages on its utility ſeem ſtill to be divided. On one hand it is certainly clear that the hook-plough, by not going deep enough, does not ſufficiently turn over the large clods, nor thoroughly deſtroy the roots of the weeds; but this advantage is only in clayey and loamy ſoils, whereas in ſandy ground, the hook-plough is for that very reaſon particularly uſeful. As no mechanical ingenuity is neceſſary for the making of it, and in uſing it only one, and that not a very ſtrong horſe, is wanted, it is beſides a great relief to the poor peaſants, and it is hardly poſſible for another plough to have been invented ſo adapted to the ſeveral kinds of ſoil, and at the ſame time ſo light, commodious, and cheap, as the fork-plough.

A ſecond ſort, the heavy plough, is commonly uſed not only in all Little-Ruſſia, and the governments adjoining to it, but alſo among the Tartars, Moldavians, Tſcherkaſſians, Georgians, and Perſians, in ruſs called ſaban, reſembling in ſome meaſure the ordinary german plough, and in the uſe whereof from two to four horſes, or four to ſix oxen and ſometimes eight are required.

In the number of variations which appear in the compoſition of this plough*, one deſerves particularly to be remarked, where, before the tranſverſe plough-iron, the knife-blade is fixed, for cutting the turf, which afterwards is raiſed and turned over by the plough-ſhare. — Likewiſe the german, particularly the mecklenburg plough is uſed in ſeveral diſtricts, eſpecially among the foreign coloniſts; it is not however frequently ſeen, as the foreign ruſtics eaſily quit their country cuſtoms, and adopt the ruſſian hook-plough, which they find more convenient.

The HARROW conſiſts almoſt always of nothing more than ſhort wooden pegs driven into thin laths woven together with willow-twigs. In Livonia they at leaſt give themſelves the trouble to faſten theſe pegs in narrow logs furniſhed with holes and connected by joints, ſo that ſuch a harrow can be drawn over field-ſtones without detriment. Still more ſimple is the branch-harrow in uſe among the Lettes, Eſthonians, and Finns, and is made of branches of bruſhwood twiſted together, of which ſome ſtrong ends are left prominent. This kind has the advantage of being extremely light; it is employed not only in clean grounds, but particularly for buſh-lands, on

* Moſt of the ploughs uſed in Little-Ruſſia are circumſtantially deſcribed and delineated in Guldenſtædt's travels, tom. ii. p. 480—493; where there is alſo a figure of the georgian plough.

account

account of its elaſtic teeth, as on ſuch fields the harrow with pegs would ſoon become unſerviceable. The german harrow with iron teeth is only ſeen in particular places with the coloniſts, or on eſtates where the proprietors pay extraordinary attention to tillage. — The uſe of the ROLLER is known in very few parts; nor is it perceived even that a field yields a leſs crop for neglecting the roller; however here and there the boors employ this inſtrument, and there are even ſeveral kinds of it.

The utenſils for REAPING the corn are different in different parts. In the great-ruſſian provinces the ſickle is in uſe, which is alſo introduced into Livonia, and inſtead of which the eſthonian boor employs the ordinary ſcythe. In the Ukraine the large german ſcythe is generally employed. The Lette cuts all kinds of corn with a little ſcythe faſtened to a ſhort handle, which he works in his right-hand; holding in the left a ſmall hook, with which he gathers as many ſtraws as he intends to cut at once. The Tartars uſe ſhort but very arched ſcythes to a ſhort handle, with which, without ſtooping, they cut to the right and left. — Among all theſe the lettiſh ſcythe ſeems to deſerve the preference. It is proved by experiments, that one man with this inſtrument can reap as much as three people with eſthonian ſickles; beſides, this ſcythe has the advantage that in the uſe of it the labourer needs not ſtoop, that no long ſtubble is left ſtanding, and conſequently not ſo much ſtraw is loſt,

loſt, and that the ripe ears are not ſo much ſhaken as to ſhed their grains, all which is frequently the caſe in cutting with the ſcythe. Inſtead therefore of introducing the complete german reaping-ſcythe with its wooden guard, as ſome livonian landlords have attempted to do, it would be more beneficial to bring the lettiſh into more general uſe throughout Ruſſia. — For THRESHING the ordinary flail, made very light, is employed, or even only long crooked ſticks.

More ſimple and artleſs implements of huſbandry cannot well be conceived. When the german peaſant firſt ſees the one horſe plough, the little ſcythe, the light threſhing-flail, he muſt think them to be mere play-things; and yet the coloniſts from that country very ſoon accuſtom themſelves to the uſe of them, as not only favourable to lazineſs, but alſo in ſome degree adequate to the exigencies of the country.

The FIELDS*, from their eſſential quality may be reduced to the three following heads; as either tilth, or ſteppe, or wood-land, in ſome diſtricts called buſh-lands. By TILTH is meant ſuch fields as are in continued cultivation, or are tilled every year. In Ruſſia it is the general practice to divide the land into ſummer, winter, and fallow fields, in ruſs yarovaia, oſimovaia, and yar, to which

* Lepekhin's travels, tom. i. p. 42. Hupel's ſtaatſverf. tom. ii. p. 526. Georgi, beſchreibung des St. Peterſb. gouv. p. 568.

ſome

ſome add the new-broken, novina, to which we have aſſigned a particular article. As probably very few readers need an explanation of theſe diſtinctions, we will only juſt obſerve, that the ſummer-field is ſown and reaped in one year; whereas the winter-field receives the ſeed in autumn, and keeps it till the following ſummer. The former in moſt diſtricts of Ruſſia is ſown with ſummer-wheat, ſummer-rye, barley, millet, buck-wheat, flax, hemp, peaſe, poppy, heathcorn, and oats: but the latter only with rye and wheat. When the land has been winter-field, it is left fallow, and lies the reſt of the ſummer, as well as the autumn and the whole winter, unoccupied; at times, notwithſtanding, the ruſſian boors ſow even what has been winter-field in the following year with ſeeds that do not draw the ſoil ſo much, and leave the ground ſome repoſe under this change. Entirely to omit the practice of letting the ground lie fallow, as propoſed by agriculturiſts of late, is thought even by judicious landlords to be very difficult or utterly impoſſible on account of the ſhortneſs of the ſummer in moſt of the provinces of the ruſſian empire. As the ſummer corn is not reaped in many parts till Auguſt or even September, neither the time nor weather will allow of the ground being properly tilled for the winter ſowing, and the late-ſown rye, by reaſon of the night-froſts, will not acquire the force neceſſary

for

for being able to reſiſt the rude blaſts of the autumn and ſpring.

The STEPPE-GROUNDS may properly be put in the ſame claſs with the graſs-lands every where known; for though there be ſome difference between them, yet in this they are alike, that they are employed without any ſort of manure for a ſhort time and then left again to nature. In the large ſteppes that are found within the compaſs of the ruſſian empire, and where every one that is deſirous of purſuing agriculture may appropriate to himſelf any portion of ground at pleaſure, no other culture is known than to plough the ground once, to harrow, and then to ſow it. Even in diſtricts where the ſoil is meagre, this eaſy tillage is in uſe, particularly in ſowing linſeed; but if the huſbandman wiſhes to throw grain into his graſs-grounds, it is uſual to plough them ſeveral times the whole year through, and to harrow before the ſowing, that it may be more mellow and better able to imbibe the fructifying particles of the atmoſphere; and this is called, by a technical term: to leaven the land. This careful manner of proceeding is by no means general on the ſteppes.

FOREST GROUNDS, or buſh lands, laſtly, is the name given to fields that require to be fertilized by fire, which is generally practiſed in two ways. They either cut round a foreſt or bring bruſhwood to the place, and after being prepared and dried burn it upon the ground; or they clear away the wood from the ſpot, plough up the

ground, and cover the faggots or ſplit logs with it before they ſet fire to them. The former proceſs is called rhœdung, and the latter kuttis, but both in the one and the other there are ſeveral variations according to the different diſtricts. In the inner provinces of Ruſſia the boors, about Peter and Paul day, or the 29th of June, content themſelves with cutting down a tract of foreſt, leaving the wood to lie upon the ſpot, not burning it till the ſpring of the following year. The firſt ſowing on ſuch a burnt-rhœdung is commonly flax, then in the next year barley or oats, and laſtly winter corn. If the ſoil be good in itſelf, it is employed for conſtant tillage; in the contrary caſe the cultivated rhœdungs-ground is left for ſome years for its gradually growing into foreſt again, and after fifteen or twenty years it is once more fit for kuttis or rhœdung.

Laborious and difficult as theſe works are, yet they yield a very large and certain profit, and may therefore be recommended under particular limitations in diſtricts where there is an actual ſuperfluity of wood. In the government of St. Peterſburg is obtained, even on a tolerable ſoil, from a rhœdung in the firſt four years a harveſt from ten to fifteen fold, and from a kuttis-land ten to five-and-twenty fold. Indeed it has of late been affirmed by ſome gentlemens' ſtewards, that the kuttis renders the ground perfectly unfruitful for a long ſeries of years: but this aſſertion in many provinces of Ruſſia is refuted by upwards of a

hundred

hundred year's experience. — Of greater importance than this objection is the damage, which particularly the rhœdungs or novines do to the foreſts. Beſides the ſpace which the boor has ſelected for arable land, large tracts of timber of the beſt growth are thus burnt down; and beſides this, the boor fells all the trees without diſtinction, and among them even ſuch as in time would be uſeful for ſhip-building*. It would be infinitely

* Againſt this devaſtation of the foreſts ſeveral enlightened landlords have already expreſſed themſelves very feelingly; and it certainly were much to be wiſhed, that their remonſtrances might meet with general attention. Not only in Ruſſia but in Sweden too foreſts are laid waſte, for the ſake of a few good harveſts, which coſt ages to produce. — With all the advantages that can accrue from the rhœdungings, reckoned at the utmoſt, it is yet ſomewhat ſurpriſing, that, for example, ſeveral verſts round St. Peterſburg, where a fathom of birch-wood for fuel in 1795 coſt two and a half to three rubles, and in 1798 even ſix rubles, a ſquare geographical mile of foreſt was—not felled; that might have been for the benefit of the eſtates, but—burnt. Auſwahl. œkon. abhandl. tom. i. p. 115. — What havoc the country people commit in this reſpect, the following inſtance from the government of Olonetz may ſerve to evince. Here the culture of the winter-rye in rhœdungs-fields is accounted the moſt profitable, if it be proper to apply the word profit to a ſpecies of culture that is attended with the greateſt detriment to futurity. However, this procedure might be ſuffered to paſs if the boors confined themſelves to thoſe tracts devoted to this uſe, and would only conſign to the flames the young wood and the buſhes; but they hew down and burn not only the middling ſized trees of about fifty years

more beneficial, therefore, to the culture of the country, if inſtead of theſe rhœdungings, which help to increaſe the ruinous ſcarcity of fuel, the moraſſes were to be drained, the noxious influence of which on the population and the breeding of cattle, and indeed on the culture of grain itſelf, is already but too perceptible, and the extermination whereof would, by the acquiſition of fat lands, repay with uſury the labour beſtowed upon it *.

In

---

growth, but even they ſpoil the fineſt carpentry-timber and excellent maſts which have required two hundred years to have attained to their dimenſions. The boor not being able to fell ſo many thick trees, he ſtrips them only of their bark, leaves them to wither, and then kindles the ſmall brush-wood which he had cut down before. This old ground in good years uſually yields an increaſe of forty to fifty fold and upwards, bears two crops of rye, and afterwards two crops of oats. Id. ibid. tom. i. p. 184.

* In an extremely remarkable paper, communicated by a very ſenſible perſon to the free œconomical ſociety, it is ſhewn that in the government of St. Peterſburg alone, by the draining of moraſſes, about 500,000 deſætines of excellent arable and meadow land might be obtained. The propoſals made by the author to this end are not capable of an abſtract; but probably it will not be unintereſting to the reader to ſee here the collected advantages which muſt be the natural conſequence of that beneficial operation of political œconomy. 1. The reſidence, by having a number of rich lands in its vicinity would enſure to itſelf a plentiful ſupply of bread-corn, and the price of proviſions would of courſe be

In the government of St. Peterſburg, where for ſome time paſt endeavours have been made to gain

---

be lower. 2. The great multitude of people at preſent occupied in the tranſport of corn to Peterſburg, might be employed in labouring the newly-acquired acres, which would be juſt the ſame thing as if an equal number of huſbandmen came and ſettled in Ruſſia from a foreign country, and that without any expence to the government. 3. In good years a quantity of corn, more or leſs, would be exported. 4. The better practice of agriculture, in the vicinity of the reſidence, where knowledge and improvement are eminently found, would form theſe diſtricts into a ſchool of farming for the reſt of the empire. 5. By clearing the country that lies on the ſouth ſide, where, from ſome thouſands of ſquare verſts, foul exhalations are conſtantly riſing, the quality of air would be ameliorated, whereby the health of the people might be improved, the diſeaſes of the cattle diminiſhed, and the noxious inſects deſtroyed. 6. The carriage of the corn to be expected from the drained flats, as well as the mills for grinding it, &c. would furniſh employment to the other country-towns of the government; and even the art of conſtructing mills, ſo much neglected in Ruſſia, would thus become more general, &c. Auſwahl œkonom, abhandl. tom. i, p. 139. — Great and generally uſeful as ſuch an undertaking would be, the execution of it is only to be expected either from the authority of a wiſe adminiſtration or from the united energies of all the land-owners of the government. In the mean time the attempt is laudable which ſome individuals have ſet on foot to this end, and it is no ſmall ſatisfaction to us to be able to adduce one example of this nature which has already found imitators, and in time will probably find ſtill more. The deſerving perſon who ſet this example

gain arable land in this laudable manner, theſe fields of drained moraſſes repay in the firſt crops twenty, thirty, and even five-and-thirty fold; and therefore the produce is not only greater than it

---

was the late court-banker baron Fredericks, who, at his eſtate of Ræbova, fifteen verſts from the reſidence, converted a large uſeleſs and in many reſpects noxious moraſs into good corn-land, fine meadows, and excellent paſtures, and occaſionally made good roads through inacceſſible bogs. In this view he cut a large canal, in length eight verſts and 300 fathoms, into which ſeveral little collateral channels were conducted; altogether forming, according to an actual admeaſurement, an extent of 120 verſts, or about 100 engliſh miles. This great work was begun in 1775, and was completed in three ſummers; the expence amounted only to ſix thouſand rubles; for which, in regard to utility, inconſiderable ſum a ſpacious ſwampy foreſt, into which the ſunbeams could ſcarcely penetrate, covered with perpetual clouds, oppreſſed by intenſe froſts, and inhabited by beaſts of prey and noxious inſects, was converted into airy healthy fields and delightful proſpects. Beſides the canals, fourteen viſtas, each 15 fathom wide, and from four to eight verſts long, were cut through the foreſt and cleared away: whereby, without reckoning the beautiful views, the foreſt was rendered airy and dry and acceſſible to the very heart of it, and ſo much good building-timber was got out of it, that from the viſtas alone 3600 balks were obtained. Auſwahl. œkon. abhandl. tom. ii. p. 107. — How many healthy, fertile, and uſeful provinces might the ruſſian empire conquer from Nature, in a ſimilar way, by diligence and induſtry, by which means the population and the national revenue, inſtead of loſing, muſt be infinitely the gainers!

commonly

commonly is on an average from the kuttis-fields, but good arable land is obtained in perpetuity, eſpecially in the higher diſtricts which are of a firm ſoil.

After what has been hitherto ſaid concerning the quality of the implements of agriculture and of the ground, it will be eaſy to form an idea of the COUNTRYMAN'S MANNER OF CONDUCTING HIS BUSINESS. There is certainly no country in Europe where agriculture on the whole is conducted with ſo much negligence, and yet at the ſame time yields ſo great and important a produce; but with few countries has Nature dealt ſo liberally as this in moſt of the provinces of middle and ſouthern Ruſſia*. — The ſeed-time and

* How little culture the ſoil requires in ſuch diſtricts may be learnt from a few inſtances. Pallas obſerved on his travels, that in ſeveral places the corn ſhed from the ears which had ſown itſelf, ſtood finer than that on the laboured fields; and he aſſures us that he did not perceive this merely in particular places, but in entire provinces. Travels, tom. ii. p. 100—280. — If the plough be unneceſſary in ſome parts, manuring is even prejudicial in others, for example, about the Don, on the Samara, in ſeveral circles of Uſa, in the barabintzian ſteppe, on the Samara, here and there on the Yeniſſey, on the Selenga, on the Volga and Kama, &c. where the corn, by manuring, either ſhoots out too rank or is burnt up. Pallas, travels, tom. ii. p. 641—650. tom. iii. p. 6—168. Here then that refined mode of culture would be ſuperfluous, and the boor is therefore in fact pardonable in ſowing his corn, "as if he were feeding the birds of the air," as Pallas ſays.

harveſt in ſo large an empire cannot be univerſally aſcertained. The provinces of the middle territory are accuſtomed to ſow the winter corn from the beginning of Auguſt till towards the middle of September, and in July or Auguſt of the following years to reap; conſequently theſe kinds of grain are ſtanding, upon an average, above eleven months on the field. The ſummer produce is uſually ſown in May and cut in Auguſt; they are of courſe only three or three and a half months on the field. In the ſouthern diſtricts, when the boors reſt after having finiſhed their ſummer-ſowing, thoſe in the northern dung their future winter-field, and then follow the hay-making and the harveſt. In autumn they are both buſied with the winter ſowing; but the upper huſbandman is entirely free the whole winter till the ſummer tillage, and has nothing to mind but his houſehold concerns; whereas the lower is dunging his fields in the great faſt before eaſter. The former is ſatisfied with only ploughing and harrowing it once; the latter muſt perform the ſame labours twice. — In moſt parts the boor ſows, chiefly in ſpring, his corn on the waſte that was fallow the laſt year or ſeveral years before, without dunging it exactly every time; then he takes his light plough in hand, breaks up the ground with it, and a ſecond horſe, following him with the harrow without a driver, concludes the whole buſineſs. Only for the new-breakings up he employs

the before-mentioned knife-plough which has a deeper hold on the ground. The fields are only dunged in places where the ſtock of cattle allow of it; the boor has nowhere any conception of an artificial manure with marl, chalk, pond-mud, or even merely with the ſweepings of the foreſts. Only on the farms of particular noblemen are any endeavours uſed to improve the ground by ſuch means; the boor neither employs nor knows no other compoſt than the rhœdungs and muck, and even theſe the ruſſian, particularly the ſiberian boor, does not always uſe. The harrows alſo being ſo light, there is ſeldom any clean harrowed land, eſpecially where the ſoil is loamy and heavy. The corn is partly cut with a ſickle and partly mown with the ſcythe. In ſome provinces it is threſhed out with flails or ſticks, on others trodden out by horſes or people; ſometimes it is threſhed wind-dried, but has been on the kiln before *.

This general deſcription however is only applicable to the manner in which the boor of Great-Ruſſia performs the labours of the field: in the provinces lying on the Baltic, in the white-ruſſian governments, in the poliſh Ukraine, and even in proper Ruſſia on the eſtates of noblemen who carry on the farming buſineſs with ſome degree of care, incomparably more pains are beſtowed, and

* Hupel's ſtaatſverf. tom. ii. p. 528. Lepekhin's travels, tom. i. p. 38. Pallas, travels, tom. i. p. 163.

in

in general more ingenious implements uſed. As we cannot, without tranſgreſſing the limits of our plan, indulge ourſelves in very circumſtantial details, we will only endeavour to point out ſome eminent inſtances to ſhew how diverſely this culture is proſecuted in different regions of the empire.

In the government of St. Peterſburg huſbandry is the buſineſs of the RUSSIANS and FINNS, who here inhabit together the open country and the ſmaller towns; and though agriculture in this province, as well from natural difficulties as the proximity of the reſidence, is not properly the main concern of the inhabitant, yet the account of it will afford an inſtructive example, as both nations conduct it generally by methods handed down to them by their anceſtors, and we are therefore enabled to ſee the variety of their proceedings in a lively contraſt. Even in their dwellings a great difference is already apparent, as the Ruſſians live together in villages, but the Finns ſingly, or by families, in what are called ſcattered crews. The former have the advantage of mutual aſſiſtance and of an incitement to emulation in ſkilfulneſs and induſtry; the latter ſtate is preferable in this, that the fields lie nearer to the habitation of the boor, which is a ſaving to him of much time and trouble. Villages are ſeen throughout Ruſſia, as among all the nations who have taken their agriculture from the Ruſſians; their magnitude is often very conſiderable;

able; and as they conſiſt uſually of only one long ſtreet, the fields are frequently at a diſtance from them. Whereas the Lettes, Eſthonians, and Finns univerſally dwell in diſperſed gangs or ſolitary hovels, of which ſeveral are rarely ſeen together.—If we, farther, take the effects of national character into our account, the difference between the ruſſian and finniſh agriculture is ſtill more ſtriking. The ruſſian boor generally labours only his old arable lands, whereas the finniſh peaſant ſtrives to leſſen his work at the expence of the foreſts. The finniſh implements of huſbandry are, if poſſible, more light and ſimple than the ruſſian. Thus the Finns uſe only the branch-harrow, and not unfrequently nothing more than the rake inſtead of the knife-plough. Their little country carts are not, as with the Ruſſians, on two, but only one axletree, the wheels whereof are never ſhod with iron; and, inſtead of this miſerable vehicle, they very frequently employ only a couple of poles faſtened at one end to the two ſides of the ſaddle and the two other ends trailing on the ground.

Great as the difficulties are, which an inclement ſky and the not very fertile ſoil oppoſe to the progreſs of agriculture in theſe northern provinces, yet they can give no incitement to the activity of the ruſtics of theſe parts, whoſe careleſſneſs would announce to the ignorant ſpectator the moſt benign atmoſphere and the moſt luxuriant ſoil. The rural occupations, which here in general demand the greateſt

greateſt punctuality on account of the rapid viciſſitudes of the ſeaſons, uſually begin in the middle of April, and laſt till towards or perhaps extend into October. As the harveſts here without manuring would turn out but very ſcanty, this therefore certainly belongs to the number of agricultural employments; but ſeldom are the little inſignificant ſtocks of cattle ſufficient to this purpoſe, though they endeavour to increaſe the muck by ſtraw, and artificial means of compoſt are either not at all employed or only on particular fields of the manorial demeſne. To ſupply the want of this neceſſary material, many eſtates divide their arable land into four, five, or ſix fields, whereof two or four lie fallow, in order to recruit by a longer repoſe the vigour which they cannot obtain by manure; the fallows in the mean time ſerving as cow-lares acquire by that means ſome degree of manure. In ſuch circumſtances it is not ſurpriſing, that the boor chooſes rather to cultivate the foreſt-grounds, the profits ariſing from which being certain, and the damage only falling on the ſucceeding generation; yet there are alſo landlords, as we have already obſerved, who by exterminating the moraſſes and their wretched growth of wood ſeek to increaſe their arable land to their own detriment and for the good of the whole. — Of the ſeveral kinds of grain that are here culitvated, the winter-rye is the moſt frequent and the ſureſt, as being ſeldom liable to a general failure.

The

The ſeed-corn yields, as is the caſe with all the other fruits of the field, the domeſtic harveſt, and on ordinary grounds repays the ſowing four to ſeven fold. The rye does not arrive at full maturity every year, and then it yields meal indeed, but likewiſe very bad bread. It is neceſſary to plough twice for all ſorts of grain, but for the winter-rye thrice. The harveſt commences towards the end of July, and laſts till ſome days in September; the corn is cut with ſickles and bound up in ſmall ſheaves, which are ſet up in circles of 10, leaning againſt each other, and covered with one inverted ſheaf at top. When they are air-dried, they are put in high ſhocks on wooden ſtages, where they remain till they are carried to the kiln to be hardened.—As this cuſtom of criſping the ſheaves previous to the threſhing, is common throughout Ruſſia and even in Siberia; it will not be ſuperfluous to give a ſhort idea of that proceſs and of its utility.

The ruſſian corn-kiln, *ovin*, conſiſts of a wooden ſhed made of balks driven together, having a few apertures with ſhutters in the ſides, and furniſhed within with ſeveral croſs poles. Adjoining to the ſhed an oven of brickwork is made in the earth, from which flues run into the kiln. When the corn is to be malted, the ſheaves are hung upon the poles, and a ſlow fire is kept in the oven, the ſmoke of which penetrates into the kiln, making the ſheaves to reek; the vapour eſcapes by the

ſide.

ſide-holes, which are opened at pleaſure. In ſome provinces the kiln is ſomewhat differently conſtructed *; but the practice of malting the corn in this manner is univerſal, and is of great and various utility. The grains are indeed ſmaller for the drying, but it preſerves them from corn-worms, renders the grain fit for keeping in granaries, and even incorruptible in long voyages at ſea, without rendering it unſerviceable for ſowing. This advantage of the ruſſian grain is however procured at a great expence of wood; for which in ſome parts perhaps moſs-turf might be employed with the ſame effect. The corn being malted, it is carried by the Finns into the kiln itſelf, but by the Ruſſians threſhed out on the floor or on the ice, with ſmall light flails, and purged by caſting or winnowing. The generality of countrymen keep their grain in the corn; only ſome of them

* In moſt parts it is ſtill more ſimply conſtructed, and commonly conſiſts of nothing more than a pit in the earth, over which is built a ſlight hovel of balks wedged together, into which the ſmoke and the heat are drawn. The Tartars on the Kama and Volga, inſtead of this hovel, only place a pyramidal frame of thick poles over the pit. Theſe corn-kilns in Livonia are on the beſt conſtruction; a deſcription whereof, which would be here too long for inſertion, may be ſeen in Hupel's topographiſchen nachrichten, tom. ii. p. 294, & ſeq. where is likewiſe a propoſal for an improvement in theſe buildings, which as appears from Friebe's obſervation on Livonia and Eſthonia, p. 142, is already in practice with ſeveral land-owners.

grind

grind all their rye immediately into grift-meal. — Doubtleſs the climate is little advantageous to agriculture, yet there has ſeldom been an inſtance of general failure; but every year the harveſt falls ſhort in one circle or another. A ſingle boor can at moſt conveniently labour two or three deſætttines of arable land; and a numerous grown-up family has work enough with four or five deſætttines *.

Having given theſe ſpecimens of agriculture in the northern regions, we will proceed to deliver a ſhort deſcription of the UKRAINIAN huſbandry, which in many particulars differs widely from that followed in Great-Ruſſia. A milder climate, and a more compact and fertile ſoil, render other culture and other implements of tillage neceſſary here. The ukrainian peaſantry ſow far more ſummer-grain, becauſe the winter-ſowing in their wet and ſnowleſs winters is apt to rot and ſo to render the harveſt doubtful, which in the northern provinces is exactly the reverſe. Inſtead of the light hook-plough, they uſe the large heavy ukrainian plough, and for the horſe which in Ruſſia is almoſt the only beaſt uſed for ploughing, here oxen are put to, of which ſometimes eight are ſeen harneſſed to one plough. Beſides this plough they employ likewiſe a curious variation of it, called rallo, and which cuts the ground with five or ſix iron teeth

* Georgi, beſchreibung des St. Peterſburg gouv. p. 566—585.

at

at once. In order to haſten the ſpring-ſowing, the boors commonly plough their fields in October, and as ſoon as the ground is thawed, which happens in March, the ſeed is ſtrewn into the earth without farther preparation; at firſt, poppy and aniſe, afterwards in ſucceſſion barley, wheat, oats, peaſe, linſeed, millet, flax, and hemp; the buckwheat is ſown on light and dry lands. In diſtricts with no wood and few inhabitants, the ſteppes or overgrown fallows are repeatedly ploughed, and ſuch fields again rendered uſeful, receive at their firſt ſowing aniſe or millet, which require a firm ſoil, or even buckwheat when the ſoil is juicy and fertile. In the following year they are ſown likewiſe with millet or wheat, in the third with oats, in the fourth with rye, and then they are left again to lie fallow for a few years. By ſuch culture repeated annually for ſome years, the ſteppe is commonly changed into a beautiful paſturage, covering itſelf with ſweet nutritious herbs. Foreſt lands, which are ſo frequent in the northern governments, are here ſcarcely ever ſeen; as theſe ſouthern regions have not wood enough for kuttis-burning or for the rhœdings; inſtead of theſe the numerous herds of cattle which paſture on the fallows, yield far more manure to the ground, than it receives by theſe means in the northern provinces which are poor in cattle. An artificial improvement of the ground is only in uſe on manorial eſtates, and even there not much, as the harveſts

veſts are ſufficient for the wants of the inhabitant without it. An indifferent ſoil will return the ſowing of winter-corn five to ſeven fold, and of the ſummer-corn from five to ten fold.

When the corn is reaped, it is not immediately malted, but after it has been air-dried on the field in ſheaves, firſt on floors under the open ſky, then cleanſed or waſhed, and laſtly dried by the ſun or on the oven. As the breeding of cattle forms the moſt part of the ukrainian huſbandry, it is uſual to aſſign a quantity of wet threſhed corn for winter-provender in a proportion of one half to the ſtore of hay. The reſt of the corn is kept in barns for the enſuing year, or put unthreſhed into earth-holes lined with ſtraw and covered at top with ſtraw, buſhes, and earth, for protecting the corn within from damps and froſts *.

Theſe examples will be ſufficient for giving a notion of the buſineſs of agriculture as well in the northern as the ſouthern provinces; both alike in this, that in general much is left to Nature, and that her operations are neither ſeconded by great labour nor by refined induſtry. On the whole the agriculture in all the NORTHERN provinces is the ſame; only where the proprietor intereſts himſelf in the ſucceſs of it, it is managed with greater care, and this ſeldom happens in Ruſſia proper,

* Beſchreib. der ſtatth. Kharkof, im journal von Rufsland, tom. ii. p. 102—106.

whereas in the white-ruſſian and livonian governments it is frequently the caſe. It is true that in the latter the above deſcribed ſimple inſtruments are in uſe, but they are employed with greater induſtry and exertion. Here is more ploughing and more manuring, and even artificial improvements of the arable lands are not unuſual. With a moderate degree of fertility of ſoil, the winter-rye in the government of Riga produces a return of its ſowing from five to twelve fold, the barley eight-fold, and the winter-wheat ten-fold; and on rhœdings and kuttis fields the produce is naturally ſtill greater *. In the white ruſſian provinces this induſtry is ſtill farther encouraged by a much more prolific ſoil; as here, for example, in the government of Mohilef, the ordinary harveſt with ſeldom and little dunging is twenty-fold. The countrymen, according to the teſtimony of a farmer of the place †, are induſtrious and have a turn for agriculture, and the implements of huſbandry are completely adapted to the ſoil, and admit of no improvement. The laying down the fields, the harveſts, and the keeping of the fruits of the earth are managed with the greateſt care; but a material defect here preſſes hard on rural œconomy, and that is, the cuſtom that every proprietor, beſides the land which his boors hire of him with

* Friebe's bemerk. ueber Liefland und Eſthland, p. 135.

† Aufwahl œkonom. abhandl. tom. iii. p. 167.

money,

money, feudal ſervices, or payment in kind, lets out the reſt to ſuch as chooſe for the third or the fourth ſheaf. Theſe people, who only look to the momentary advantage, never manure, nor ever let the ground have reſpite; accordingly the beſt ſoil is very ſoon exhauſted: beſides, by this method, the cattle loſe their paſture, and the young boor can find no opportunity for ſettling himſelf.

The deſcription which we have given of the ukrainian agriculture, is ſuited in general to all the SOUTHERN provinces, with this limitation, however, that in moſt of them it is far more negligently and imperfectly carried on. The greater fertility of the ſoil and a milder ſky render many precautions unneceſſary which the ruder climate of the northern governments extort from the ſlothfulneſs of the inhabitant. In theſe temperate regions there is ſeldom any ploughing and ſtill ſeldomer or never any manuring: the breeding of cattle forms the chief part of their huſbandry, and the methods of culture are generally more dignified and refined *. — Pallas has given a ſample of SIBERIAN agriculture in mentioning the fruitful diſtricts of the Yeniſſey, which we before adduced. Here the boor has certainly a light work of it, as he is ſo liberally ſeconded by nature.

* Pallas, tableau de la Tauride. Bœber's œkon. bemerk. ueber Ekatarinoſlaf, in den preiſſchriften der œkon. geſellſchaft, tom. i. p. 196. Aſtrakhaniſche landwirthſch. Aufwahl. œkon. abhandl. tom. iv.

There is no need of manuring in theſe and ſimilar diſtricts, ſince the ground, if only left fallow the third year, continues bearing for fifteen years and upwards; and becauſe there is everywhere freſh and unbroken ground which the boor can always turn up into arable fields unmoleſted. The kind of corn moſt commonly cultivated here are ſummer-corn and winter-rye; the winter-wheats are not known in any part of Siberia, and beſides the above fruits of the earth, the ſiberian boor concerns himſelf but little about other cultures *.

Ere we cloſe this article we muſt take ſome notice of the Tartars, the Votiaks, and the Tſcheremiſſes, who not only inhabit provinces that are partly the richeſt in corn, but advantageouſly diſtinguiſh themſelves from all the huſbandmen in the ruſſian empire by their application and induſtry. The Tartars in the governments of Ufa and Kazan are wont to lay out their grounds in the proximity of every village, and to divide them in common into three fields, of which one is left annually fallow, and on it the cattle graze. In this manner the fallow gets a kind of manure, which for theſe generally excellent grounds is ſufficient, and by which they are kept for many years conſecutively in proper order for the cultivation even of wheat. If the fertility at length declines, and there is no ſteppe in the vicinity fit for tillage,

* Pallas, travels, tom. iii. p. 5.

it

it not unfrequently happens that the people of a whole village break up their wooden houſes and tranſport them to another place; a practice which is imitated even by the ruſſian boors, particularly in Siberia. Though the Tartars ſtill uſe the heavy plough for breaking up new ſteppes, yet they have adopted moreover univerſally the light, cheap hook-plough, which requires fewer draught-cattle; but they differ from the ruſſian villagers in this particular, that they dry by fire the ſheaves, not in regular corn-kilns, but in open pits, over which poles are placed together in a pyramidal form. The agriculture of the Tſcheremiſſes, Votiaks, and Meſchtſcheriæks on the Kama and Volga, is very like the tartarian; only they have the cuſtom of burning away the ſtraw in ſtill weather, which they purpoſely leave high ſtanding at the harveſt before they plough for ſowing, whereby the ground is both dried and receives ſome degree of manure. In dry ſteppes, however, their method is to plough in the ſeed, or to ſtrew it on the fallow ground previous to the ploughing, and they are convinced by experience that it thrives better in this way *.

In ſpite of all the defects of ruſſian huſbandry, of which, from the foregoing account we cannot form a very high idea, the PRODUCTS OF THE AGRICULTURE are ſo numerous and important,

* Pallas, travels, tom. ii. p. 6. tom. iii. p. 492.

that they not only fully anſwer the demands of home conſumption, but likewiſe conſtitute by far the moſt conſiderable article of exportation. To reduce the great variety of theſe objects into an order that ſhall render them eaſy to be ſurveyed, we will firſt notice the ſeveral ſpecies of corn, then the provender-herbs, and laſtly the moſt remarkable vegetables for fabrication and trade, the culture whereof either is actually carried on, or might be introduced to great advantage.

Of the ſeveral SPECIES OF CORN the RYE is the moſt generally cultivated, and both the winter and the ſummer-rye ſucceed equally well in the tracts of land that lie not farther to the north than the 60th degree of latitude; in which are only to be excepted the particular diſtricts that are abſolutely either too wet or too dry. — Wheat is more cultivated in the middle and ſouthern governments; the winter-wheat, however, ſeldomer, and in Siberia not at all. In the government of Ekatarinoſlaf they cultivate likewiſe the ARNAUTAN wheat, which yields a fine flour tending to yellow, and its produce there is ſo abundant, that in good years it commonly returns fifteen corns above the ſowing*. As a product brought hither from mild climates, it requires a warm and dry ſoil, and therefore ſucceeds only in the ſouthern

* Preiſſchriften und abhandl. der œkonom. geſellſchaft in St. Peterſb. tom. i. p. 198.

provinces.

provinces. Turkiſh wheat or maize is raiſed in the confines of the Terek and in Taurida. — BARLEY is a main product in moſt governments where the wheat ſucceeds, and even in ſome others; as the conſumption of barley-meal in Ruſſia is very great: though it is only the ſummer-barley that is generally cultivated. — Alſo OATS are commonly grown, though they are not everywhere alike productive; they are likewiſe raiſed partly for the conſumption of the people, in this caſe being prepared into meal, and eaten as porridge. — Of theſe four kinds of corn Ruſſia annually exports to foreign countries a conſiderable quantity, eſpecially from the livonian ports. In the year 1793 theſe exports amounted, both in corn and meal, to the value of, in wheat 1,490,000, in rye 1,379,000, in barley 236,000, and in oats 17,000 rubles.

The remaining ſorts of corn are generally ſufficient for the home demand, are moſtly ſuſceptible of a greater culture; and therefore there is no exportation of them. MILLET is pretty general; but SPELT, or bear-barley, is but little cultivated. Buck-wheat is very plenty both in Ruſſia and in Siberia; and in this latter part of the world is cultivated almoſt throughout in a very ſingular manner. It is ſown here in large fields on a fat ſteppe newly broke up, the ſowing being thin and rather late, that it may be the leſs injured by the night froſts. After one ſuch

ſlight ſowing the ground is made for five to eight years, and yields all this time above a produce of at leaſt ten to fifteen fold. That is, there is ſhed at the reaping a ſufficient quantity of ſeed upon the ground, which does not corrupt the whole winter through; nothing farther then is neceſſary to be done than to harrow the field once, in order to be able again to reap at the next harveſt, and this may continue till the fecundating quality of the ſoil is quite exhauſted. No other kind of corn, conſequently, is better ſuited to the ſluggiſh ſiberian country-people; who have at the ſame time the additional alleviation of being able to mow the buck-wheat with ſcythes, to threſh it out upon the ſpot, and inſtead of carrying away the ſtraw, to burn it on the ground. The WILD ſiberian buck-wheat multiplies at ſuch an extraordinary rate, that it ſprings ſpontaneouſly wherever a plot of ground is made barely uſeful; and in places where corn or hemp is ſown, it often gets the upper-hand and choaks thoſe ſowings. Being therefore conſidered as a weed by the ſiberian boors it is little or not at all eaten, though it affords a very well-taſted food, and is eaſily made into griſt. Only the Beltirs and Koibals gather it, and it is likewiſe ſometimes ſown by the Katſchintzes*. — MANNA† grows almoſt every

* Pallas, travels, tom. ii. p. 365. tom. iii. p. 351. 383. 395.

† Feſtuca fluitans.

where

where in Ruſſia on meadow-grounds overflowed, particularly in the governments of Riga, Pſcove, Polotſk, Novgorod, Tver, Smolenſk, &c. but not thick enough to be gathered in quantities, as, for inſtance, in the government of Moſco. The œconomical ſociety of St. Peterſburg has therefore offered a premium for an anſwer to the queſtion, how the culture of this uſeful vegetable may be promoted, which not only affords a very white and well-taſted griſt, far ſuperior to that of the fine wheat uſed in Ruſſia, but as a herb is an agreeable and wholeſome food for many of the domeſtic animals. The marſhy diſtricts of the beforementioned governments would without doubt be the moſt advantageous for this ſpecies of culture. — Rice alſo is among the products, which the ruſſian empire might produce in good quantities. This plant requires a warm climate and a flooded ſoil, and can therefore only be cultivated in the moſt ſouthern provinces. In the neighbourhood of Kitzliar the rice ſucceeds extremely well, and probably it would flouriſh likewiſe on the coaſts of the Caſpian, between the mouths of the Terek and the Volga; the iſlands ſituate in the mouths of the Don and the Ural are equally adapted to this purpoſe. But for this culture the beſt parts of all would be the ſhores of the Kuma quite along to its mouth, where the nomadic Tartars, who well underſtand the cultivation of rice, might bend

bend their inclination that way*. Hitherto the quantity annually obtained is very trifling, and Ruſſia pays for the purchaſe of this article of food no very ſmall ſums.

The culture of POTATOES, that uncommonly uſeful vegetable, which, from its general ſerviceableneſs, deſerves to be mentioned immediately after the ſeveral ſpecies of bread-corn, is employed in Ruſſia only in a few governments, and chiefly there among the foreign coloniſts. The Ruſſians cultivate it but little; prejudice and plenty of other proviſions prevent the progreſs of this new ſpecies of culture: yet here and there the introduction of it has been ſucceſsfully begun, particularly in thoſe parts where, from the rudeneſs of the climate corn does not always thrive; and namely in the government of Archangel, where they bear the cold extremely well, and in proportion to the attendance beſtowed on them, yield an increaſe of from thirty to fifty fold, when raiſed from native ſeeds †.

GRASSES AND FODDER of all kinds everywhere abound in the ruſſian empire; but theſe products cannot ſtrictly be reckoned among the ſpecies of culture. Spacious meads are generally ſeen in all parts, though here and there particular diſtricts

* Guldenſtædt's akad. rede, &c. § 54.

† Auſwahl. œkon. abhandl. tom. i. p. 253.

may

may be in want of them; but frequently they are totally unoccupied, either becauſe there is no need of hay, (yet this, from the long winters in the northern governments, forms a very important and indiſpenſable article in a regular and orderly farm,) or becauſe the people are too lazy to get it in. It is preciſely the nomadizing nations with whom the graziers buſineſs is carried on to the greateſt extent, who never mow their meadows, but let their cattle graze upon them the whole year round. Even where the meadows are mown, it is uſually done only once; as the boor ſeldom thinks of gathering the latter-math or after-graſs, and frequently the labours of the field or the weather will not allow of it. In the neighbourhood of large towns, or in parts where troops of horſe are quartered, the hay is gathered in, however, with greater care, and forms not unfrequently a material branch of ſuſtenance. Almoſt all the meadows are common lands, and it would be of no uſe to incloſe them, while there is ſuch a quantity of ground beſide unoccupied. — As ſo little pains are taken to collect the hay that grows wild, it is the leſs to be expected, that in Ruſſia artificial meads are made or graſſes raiſed. Fortunately for her, however, benignant Nature ſo amply ſupplies this want, that in moſt parts no human induſtry is requiſite. Many of the ſiberian ſteppes are ſo richly clothed with wholeſome and nutritious graſſes, that the better ſort of

farmers

farmers in the interior of Ruſſia, who have been inclined to lay out artificial paſtures, have no need to write for foreign ſeeds, but only to uſe the hay-ſeed from the latter-math of the ſteppes. Spurry, alpine, hedyſarum, numberleſs kinds of clover, podded graſſes, ſtarworts, &c. are here univerſal, and theſe herbs have the advantage that they bear any climate*. In many parts of the empire the poor paſturages might be improved in this manner by culture; but the thought of it is ſtill ſo foreign to the ruſſian farmer, that it will require more than one decennium at leaſt before we may entertain the hope that any attention to this uſeful object will become at all more general.

Of the various branches of agriculture none yields more material products for exportation than the culture of VEGETABLES FOR THE USE OF MANUFACTURES AND COMMERCE. Out of the multitude of objects of this nature, the firſt we ſhall ſelect is HEMP, the exportation whereof makes by far the moſt conſiderable head in the liſts of ruſſian exports, and is held to be the beſt of all the european ſorts. By comparing the enormous conſumption of this neceſſary material in the empire itſelf, with the great quantity which is annually ſhipped off, it is manifeſt beyond all doubt, that no produce of farming, excepting rye, is of greater conſequence to induſtry and trade. Hemp

* Pallas, travels, tom. ii. p. 75.

is

is raiſed and managed in Ruſſia everywhere in the ordinary methods; the boors are apt to ſoak it in rivers, lakes, and large ponds, by which practice the water is ſpoiled and the fiſhery diminiſhed; a nuiſance of ſuch importance as to call for the interference of the magiſtracy. Even the WILD hemp, growing very plentifully in ſome parts, e. gr. about the Terek and in the uralian mountains, is gathered in conſiderable quantities. In Siberia it is more rare, but it is found about the Volga, principally in places where towns have formerly ſtood. The women of the Kozaks and Tartars are wont to gather it in autumn, when it has ſhed its ſeed, and begins to die away; it being eaten by theſe people as well as by the Baſchkirs, Barabintzes, and other nations, in various ways *. Ruſſia exports her hemp partly raw, partly wrought into ſail-cloth, ſacking, cables, and cordage, &c. as alſo the ſeeds either raw or preſſed into oil. In the year 1793 the export of theſe articles amounted to upwards of 8,808,000 rubles, in which the hemp-oil is not included †.

* Pallas, travels, tom. i. p. 356. tom. iii. p. 266.

† The amount of this exportation more accurately ſpecified was in hemp and heads of hemp, 6,066,615 rubles
Sail-cloth, ſacking, raventuch, 2,408,670
Cables and cordage - - - - - 259,590
Hemp-ſeed - - - - - - - 74,041
8,808,916 rubles.

Not

Not leſs important is the culture of FLAX, which likewiſe is raiſed in great quantities, and of excellent quality. In numbers of diſtricts the flax-grounds are not inferior in dimenſions to the corn-lands; the moſt and beſt flax is produced in the governments of Vologda, Pſcove, Novgorod, Riga, Mohilef, Tver, Polotſk, Viætka, the confines of the middle Volga, and in the parts about the Oka and Kama. In ſome provinces, for example in the diſtricts near the Kama, the fine VALAKHIAN flax is cultivated, firſt introduced by the poliſh coloniſts; in the borders of that river it grows to the height of ſeven ſpans, and yields a far better yarn than the common*. A ſucceſsful attempt has been lately made with the ITALIAN flax in the government of Ekatarinoſlaf. The ſeed for this purpoſe is written for to Bologna, and it thrives ſo well, that the ſtalks riſe to the height of more than five arſhines, and even with very defective management gave an extremely fine texture †. Both the common and the SIBERIAN flax are found frequently WILD; the former, e. gr. in the ſteppes about the northern Ural, the latter on the ſhores of the Volga, near Tzaritzin and in other places ‡. — Among the plants growing wild, and yielding fibres like flax or hemp, is alſo the

* Pallas, travels, tom. iii. p. 492.

† Preiſſchriften der ökonom. geſellſch. tom. i. p. 200.

‡ Lepekhin's travels, tom. i. p. 267. Herrmann's beytræge, tom. iii. p. 149.

common

common and the ſiberian STINGING-NETTLE*, which are found in great plenty and eſpecially on the uralian mountains. The Baſchkirs, the Koibals, the ſagayan Tartars, &c. prepare yarn and weave linen of them; to the ſame uſe might the hop-bind be employed, which in Ruſſia is entirely thrown away.

The management of flax has nothing peculiar in it; it is picked, as elſewhere, cleared from the ſeeds, ſoaked in water, and bruiſed by beating with wooden beetles. This product, next to hemp, forms the greateſt article of exportation; moſt of it goes abroad raw; a conſiderable part is wrought up into linens, diaper, canvas, and the like, and even the ſeeds are exported partly in their natural ſtate and partly as oil. In the year 1793 this exportation, excluſively of the oil, amounted to 7,220,000 rubles†.

Among

* Urtica dioica and cannabina.

† Namely, in flax and flax-heads to the amount of - - - - - - 4,504,100 rubles
Linen, diaper napkins, &c. - - 1,678,701
Linſeed - - - - - - - - 1,037,513
7,220,314

How advantageous the culture of this plant is may be ſeen from the following inſtance. In the year 1798, the owner of an eſtate in the government of Pſcove gained from five chetverts and three chetveriks of ſeed twenty-two berkovets of flax, whereof eighteen raw and four wrought were ſold; when the net profit, after deducting the ſowing, came to 727 rubles. Auſwahl. œkon. abhandl. tom. iii. p. 131. — Of all the ſorts of

flax

Among the products of ruſſian agriculture, COTTON alſo demands a place; not ſo much from the inconſiderable quantity that is raiſed of this uſeful material, as on account of the poſſibility of increaſing the culture of it, to which many parts of ſouthern Ruſſia are completely ſuited. As yet trials have only been made to cultivate cotton about Aſtrakhan and Kitzliar, on the Terek; but there are climates and ſoils likewiſe in other circles of the caucaſean government, in Taurida, in the ſouthern part of the government of Ufa, &c. not leſs favourable to the culture of this plant. The ſhores of the Kuma, of the Kalaus, of the Yegorlik, and of the Manytſh, might, with a larger population, produce great ſtore of it; and the wives of the Tartars in the governments of Caucaſus and Kazan are very ſkilful in the treatment and the ſpinning of cotton. The annual expenditure for this product, raw or wrought, is ſo conſiderable, that it cannot be thought ſuperfluous to take no-

---

flax produced in the ruſſian empire, the livonian is reckoned the beſt. But even there it thrives not in all parts equally well, but principally in the territory of Marienburg and the ſurrounding pariſhes, wherefore by way of eminence it derives its name from the former. Several governments, e. g. Pſcove, Polotſk, &c. produce a flax of equal quality, which is frequently ſold under that name. The method in which it is claſſified in Riga, the grand mart of this product, according to its packs, may be ſeen in Hupel's topograph. nachr. tom. ii. p. 335.

tice

tice here of ſome WILD-GROWING SILK-PLANTS, producing a ſimilar material to cotton, and might be gathered and manufactured to a like purpoſe.

Here two plants particularly deſerve mention, known among the botaniſts by the names of *cynanchum acutum* and *apocynum maritimum*. Both grow wild in the very worſt ſoils, the clay or luteous ſand of the ſaline aſtrakhan ſteppe, from Tzaritzin to Aſtrakhan, and in breadth from the Don quite to the other ſide of the river Ural. The huſks of the former plant contain a ſilky floſs, which may be eaſily cleared from its pretty large ſeeds by contuſion, yielding an excellent delicate flock inferior in no reſpect to that prepared from the ſyrian ſilk-plant, and may probably be uſeful to every purpoſe, to which the latter is employed. The more this flock is teaſed and carded the finer and more fleecy it becomes; it yields a good warm down, and ſeems eminently adapted, from its lightneſs and elaſticity, for comfortable linings or wadding to ſurtouts and cloaks againſt the froſt. In carding it will not eaſily mix with cotton, but by this means it at length gets a greater conſiſtence, and might ſo perhaps be fit for ſpinning. As the ſeeds of this plant ripen not till late in autumn, of courſe it cannot be raiſed in northern climes where the ſummer is ſhort. But it would eaſily and abundantly multiply in the ſouth volga ſteppe, where it might be one of the uſeful cultures which ſhould be recommended for the employment of all

that unfruitful ſalt ſteppe, overgrown with wormwood, and totally unfit for the ordinary uſes of agriculture. — The latter of the two plants abovementioned grows more ſparingly and only in ſpots, but is in particular plenty about the Elton-lake, in ſome places on the right ſhore of the Volga and towards Kitzliar. It bears double pods or huſks, full of an elaſtic beautiful ſeed floſs, which by teaſing is likewiſe eaſily ſeparated from the ſeeds.

Beſides theſe two, the ruſſian empire alſo poſſeſſes ſeveral other wild-growing ſilk-plants, all holding out to the attentive obſerver an equal utility. Two of them are found in all parts of the temperate region, as alſo out of Ruſſia, and in the reſt of Europe; namely, that called in engliſh ſwallow-wort or ſilken cicely, *aſclepias vincetoxicum*, LINN. and the *aſclepias nigra*. The latter is indeed ſomewhat more rare, though both grow plentifully enough in the herbaceous regions of the Volga between Simbirſk and Saratof, and in the governments of Kharkof and Ekatarinoſlaf. Both will bear the northern climate, and even flouriſh in open air in the gardens of St. Peterſburg. Two other ſilk-plants, the *aſclepias ſibirica* and *daurica*, are peculiar to the middle temperate region of Siberia; they grow in the confines of the Irtiſh, the Oby, and the Selenga, and are alſo reckoned good in gravelly complaints. A ſtill more extenſive country belongs to the ſilk-ruſh or

meadow-wool *, which covers all the uſeleſs ſwamps in the northern governments, and is found plentifully in Siberia. In the month of July an immenſe crop of this plant might be gathered, the flocks whereof mingled with a fourth part of wool or cotton, produce thread very ſerviceable in weaving linen, cloth, or ſtockings. — Beſides theſe plants there is ſtill a conſiderable number of ſhrubs and trees, the ſeeds whereof are clothed in a ſubſtance ſimilar to cotton †; but the thread from this material is generally too ſhort and too harſh to be uſed in ſpinning and for ſtuffs. It would nevertheleſs be very ſerviceable for warm wadding and felt: nay it might be even worked up into hats by mixing it with wool; or, mixed with rags, would ſerve to make paper ‡.

* Eriophorum polyſtachium, Linn.

† Such as principally: epilobium hirſutum, the typha, ſome ſpecies of the poplar, namely, populus tremula, nigra and alba, and ſeveral oziers, as ſalix pentandra, cinera, and caprea, Linn. The epilobium is found in all the northern provinces; the little lakes are generally almoſt covered with the typha; the firſt kind of poplar abounds over all Ruſſia; the ſecond and third are almoſt ſolely confined to the parts adjacent to the Don and the Terek; the two firſt kinds of ozier are not unfrequent in low and marſhy places; the third grows only on mountains. Guldenſtædt, ubi ſupra, ſect. 48.

‡ Pallas, ueber die ruſſ. ſeiden pflanzen, in den preiſſchriften der œkonom. geſellſch. tom. 1. p. 162. Guldenſtædt's akad. rede, &c. ſect. 47.

Now that we are on the ſubject of the products from the vegetable kingdom that furniſh materials for the loom, it will not be inexpedient to enumerate the plants employed in the myſtery of DYING. Ruſſia, as well as ſome other european countries, neglects the fine dying materials, which are partly procured from remote parts of the world for the ſervice of domeſtic induſtry; but ſhe alſo begets a multitude of wild-growing herbs, flowers, roots, and moſſes uſed in dying, the more ſedulous collection or proper culture whereof might render unneceſſary theſe foreign products. MADDER, or the red dye, grows WILD, but ſparingly, on the banks of the Oka, near Riaſan and Arſamas, on the borders of the Volga, in the confines of Syſran and Saratof, and in great quantities and of ſuperior quality about the Samara, in Taurida, on the Terek, and in ſeveral diſtricts of the caucaſean government. This uſeful plant is nowhere properly cultivated; but in the regions of the Terek, along the Kura and Kuma, it is gathered in conſiderable abundance. As this however is not near ſufficient for the demands of the inland manufactories, and Ruſſia is obliged annually to make conſiderable purchaſe of red dyes, it would certainly be worth while to attend to the plantation of this vegetable, which in the foregoing diſtricts would produce as good a commodity as that procured from Holland and Erfurt, if it were only gathered

in

in autumn and not dried in the heat of a ſubterranean oven, but under ſheds in the open air. The culture of madder is ſtill in another reſpect of conſequence to Ruſſia, as in the collecting alone of the wild plants much time is loſt that might be more beneficially employed. Two men who ſhould cultivate madder in the above-mentioned diſtricts, where the ſoil and the climate are ſo propitious to it, would eaſily gain as much by it, as ten do now, who perhaps will ſhortly have nothing more to get, as by their preſent manner of proceeding this uſeful plant will very ſoon be entirely eradicated. Likewiſe in the governments of Ufa, Kazan, Voronetch, Ekatarinoſlaf, Kharkof, Braglaf, &c. as well as in Little-Ruſſia, the red dyes would thrive in a moiſt and fruitful ſoil. In ſeveral of the provinces we have ſpecified there are other wild plants reſembling madder; but, except the mariona*, ſufficiently known among the Kozaks of the Don, they are not entitled to any particular notice †.

After indigo the principal material for dying blue and green is WOAD; Ruſſia buys of both every year to a conſiderable amount. The plant

* Cruciata paluſtris maxima.

† For example: galium boreale, mollugo, aſperula tinctoria, &c. The origan, organy, wild, or baſtard marjoram, or wild mint, in ruſs *duſchitza*, a very common plant, yields alſo a fine crimſon red, which might be ſucceſsfully employed in dying. Guldenſtædt, akad. rede, &c. ſect. 51.

which produces indigo grows only in India, and therefore requires a much hotter climate than Ruſſia anywhere poſſeſſes; conſequently it is the more neceſſary to multiply the woad-plantations, as woad may not only ſupply in many caſes the want of indigo, but as the blue of the former in fact deſerves the preference. It is the more to be expected that the culture of this plant muſt be attended with good ſucceſs, as both the real woad*, and a very ſimilar variation of it† are ſeen WILD in ſeveral of the ſouthern governments. The former grows ſpontaneouſly on the left ſhore of the Volga near Syſran, about Penſa, near Omſk in Siberia, but moſt plentifully in the Ukraine, and in the territory of Moſdok; the latter likewiſe abounds on the Oka, the Sura, and the Volga. In the governments of Penſa, Saratof, and Voronetch, conſiderable woad-plantations have already been made for ſome years paſt, which therefore probably may afford ſeeds ſufficient for their farther propagation‡.

SAFFRON, which is uſed both as a colour and as a drug, and is likewiſe an article of importation, grows WILD about the Terek, in the governments of Voronetch and Ekatarinoſlaf, in Taurida, and eſpecially in the caucaſean mountains about Moſdok. The ſpring-ſaffron, growing in the firſt-

* Iſatis tinctoria. † Iſatis luſitanica, LINN.

‡ Herrmann's ſtatiſtiſche ſchilderung, p. 238. Guldenſtædt's akadem. rede, &c. ſect. 52. Pallas, travels, tom. i. p. 75. tom. iii. p. 617.

mentioned

mentioned diſtrict, is fit for little as a dye, and as a drug for nothing; but the autumnal ſaffron, gathered in Caucaſus, is ſerviceable in both reſpects, and bulbs might therefore be obtained here as well as from Perſia, which there is no doubt would ſucceed in the ſouthern circles of Caucaſus and Taurida. — The conſumption of SAFFLOWER* is nearly as common, it being employed by the ſilk-dyers in preparing the fleſh and roſe colours. Ruſſia ſtill continues to buy this commodity from the foreigner, notwithſtanding that the plant thrives perfectly well in the gardens at Toropetz, Moſco, Tzaritzin, Poltava, and other places, ſo that, excepting the northern provinces, it might be raiſed almoſt everywhere.

Beſides theſe four capital ſpecies, there is in Ruſſia ſtill a vaſt variety of more vulgar dying plants which might be employed to great advantage. Thus, for inſtance, a blue colour is got from the aſh-bark, with which experiments ought to be made, as that tree is in general very plenty, and in ſome diſtricts there is even a great ſurplus of it. For red colours the ruſſian empire has already many materials, and might have many more; but in a far greater quantity ſtill are the plants for yellow dyes, which moreover moſtly grow wild. By theſe materials various ſhades, and by a mixture with the reds even an orange colour might be produced,

* Carthamus tinctorius.

which would render numbers of expenſive foreign drugs for dying quite unneceſſary*.

Among the vegetables for fabrication and trade likewiſe hops and tobacco, from their large and general conſumption, hold a very important ſtation. Both are raiſed in Ruſſia, but not in ſufficient quantity to ſatisfy the demands of domeſtic induſtry or conſumption. The HOP is cultivated not only in gardens and fields, but even grows WILD in moſt diſtricts of Ruſſia and Siberia, particularly in Little-Ruſſia, on the uralian mountains, on the Altay, and in Taurida; notwithſtanding which, a greater or leſs, though always but a trifling quantity is imported. — TOBACCO, indeed, as yet, according to the cuſtoms of the country, is not one of the general neceſſaries of the lower claſſes of the ruſſian people †; however, the conſumption of it is by no means ſmall, and the importation of this product always by far overbalances the exports. In the year 1793 the former at St. Peterſburg alone amounted to upwards of

* Guldenſtædt's akademiſche rede, &c. § 51—54.

† The practice of ſmoking tobacco was held to be a ſin at the end of the laſt century in Ruſſia, and the clergy looked very grave upon the matter when Peter the great in the year 1698, granted the monopoly of the importation of tobacco to the marquis of Carmarthen and comp. In the year 1762 the monopoly that had been granted to count Schuvalof in 1759 was aboliſhed, and ſhortly afterwards the regulations mentioned above for the farther propagation of this culture were promulgated. Herrmann's ſtatiſtiſche ſchild. p. 297.

47,000

47,000 rubles, and the latter, from all the ports of the empire, barely to 20,000; yet there is reaſon to ſuppoſe that the conſumption of the inland tobacco muſt have very much increaſed, as Guldenſtædt ſtates the exportation of this product in the year 1768 at 21,000, but the whole of the importation at 108,000 rubles. The culture of this plant, become by our prejudices and habits of ſo much conſequence to induſtry and commerce, has been profitably carried on ſince the year 1763 in ſeveral diſtricts of the empire, when the government diſtributed the ſeeds, granted premiums, and publiſhed the methods of proceeding beſt calculated to that end*. Moſt of the tobacco is ſtill obtained in the malo-ruſſian governments, where the firſt attempts were principally made to encourage the cultivation; but alſo in other regions, e. gr. about the Volga and the Samara, and particularly by the Kozaks on the orenburg and ſiberian lines, this plant is much cultivated. The greater part of the ruſſian tobacco is derived from american, but ſome from turkiſh and perſian ſeed. In the generality of the ſouthern governments, theſe plantations admit of being greatly multiplied.

The culture of the OIL-PLANTS ought juſtly to be an important part of agriculture in Ruſſia, as the conſumption of oil during the faſts is very great; but of the plants adapted to this purpoſe

* Ukaſe of the 11th of December 1763.

only

only HEMP and LINSEED are cultivated to any competent degree. Ruſſia ſends annually abroad a very great quantity of both, partly raw and partly preſſed into oil; in the year 1793 the exportation of hemp-oil and flax-oil exceeded in value 697,000 rubles. But as theſe oils, on account of their unpleaſant taſte and ſmell, can only be taken as food by the loweſt claſſes of people, and as the importation of fine oil ſtill forms a very conſiderable rubric, it were certainly to be wiſhed that the culture of thoſe oil-plants could be more ſeriouſly adopted, which are either already in Ruſſia and might be employed to this end, or after due trials might be ſucceſsfully introduced. To the former belong: the wild almond-ſhrub whoſe kernel yields a mild ſweet oil, the poppy, the ſun-flower *, the rape, or wild turnep †, &c. Beſides theſe vegetables, ſeveral kinds of nuts are in ſome places uſed for expreſſing an oil from them. Abundantly as theſe and many other plants grow, particularly in the ſouthern provinces, the employment of them is yet not by far ſufficient to take place of the importation of the olive-oil, or the better ſort of it, the oil of Provence. For ſome years paſt indeed ſeveral attempts have been made in the culture of the OLIVE-TREE in Aſtrakhan; but, though the hot ſummer agrees ſo well with this tender plant, the hard winter is

* Helianthus annuus. † Braſſica napus.

not

not leſs prejudicial to it, againſt which it cannot be protected by the utmoſt care; and it is now reduced to a certainty, that it will not thrive in theſe parts *. Whereas in the confines of the Terek the olive-tree grows wild, and in the ſouthern mountainous part of Taurida it ſucceeds ſo excellently, according to Pallas's account, that the beſt kinds of it may be cultivated there †. That ſpot, however, being too contracted to be ever able, with the greateſt cultivation of this uſeful tree, to produce a ſufficient quantity of olive-oil for the whole empire, another plant, therefore, fully capable of ſupplying the deficiency of it, is deſerving of the greater attention. This plant is the SESAMUM ‡, known in the north of Perſia by the name of kuntſchuk. Its ſeed-corns are about the ſize of muſtard-ſeeds, and yield a very well taſted keeping oil, not inferior to the provençal. Ruſſia has hitherto obtained this oil from Bukharia and Perſia; but it has been ſhewn by experiments, that the ſeſamum plants flouriſh very well in the ſouthern governments, and yield there as much and as good oil as in their native ſoil. As the culture of this plant, moreover, is very eaſy, and Ruſſia by that means might ſupply

* Rading, œkonomiedirektor in Aſtrakhan, von der kultur des œlbaums in Ruſsland. Aufwahl œkon. abhandl. tom. iii. p. 305.

† Tableau de la Tauride, p. 35.

‡ Seſamum orientale.

one

one of her great wants, for the means whereof ſhe is at preſent dependent on foreign countries, it ſhould ſurely be an object of public concern to encourage the culture of ſeſamum by all poſſible means. The Armenians and Perſians who reſide in Aſtrakhan know how to raiſe this plant properly, and a ſufficient quantity of the ſeeds might be got from Schamachy and Ghilan, from which places this oil is brought for ſale to Aſtrakhan and Kitzliar *.

Ruſſia, as well as other european countries, is deficient in SPICES; but not in an inferior degree to them does ſhe poſſeſs ſeveral ſpicey plants, which are as poignant to the palate, and might frequently ſupply the place of thoſe dear-bought foreign products. Here may be named, for inſtance, SAFFRON †, which, as has been before obſerved, is found of good quality growing wild in Caucaſus, and might eaſily be raiſed in great quantities; again, muſtard, capers, ſpaniſh pepper, and a conſiderable number of aromatic flowers, herbs, and roots, the deſcription of which would be here too tedious. The WILD MUSTARD ‡ grows plentifully in the middle and ſouthern governments; it would therefore be attended with no difficulty to raiſe the beſt ſorts of it, and the

* Aufwahl œkon. abhandl. tom. i. p. 14. tom. iii. p. 306. Pallas, neue nordl. beytr. tom. i. p. 190. Guldenſtædt.'s akad. rede, &c. ſect. 95.

† Crocus ſativus. ‡ Sinapis arvenſis.

ſeeds

ſeeds might be procured from Germany and England. The CAPER-SHRUB likewiſe grows WILD about Kitzliar; it might be propagated in the ſalt diſtricts between the Kuma and the Terek. The Armenians of Kitzliar and Aſtrakhan are well ſkilled in the art of pickling or preſerving the fruit of this plant, and the ruſſian capers are of an extremely good taſte when gathered ſmall *. The SPANISH PEPPER is much cultivated about Aſtrakhan and in the diſtricts bordering on the Samara, and it very rarely happens that this fruit is prevented from coming to maturity by a premature froſt. The ripe pods are dried in ovens, pounded in mortars, and then vended in whole poods as a favourite ſeaſoning with the common people †. Of the other ſeeds of this claſs we will only mention the ANISE and CUMMIN, as of both are exported annually to the amount of ſome thouſand rubles.

Of MEDICINAL PLANTS of all kinds the ruſſian empire poſſeſſes ſo great a ſtore, that we need only refer to the new Pharmacopœia Ruſſica as a proof of it, and to the cuſtom-houſe liſts, where apothecary-drugs form an article by no means inſignificant. The trials that have been made at Moſco and in other parts of the empire to rear the genuine or chineſe RHUBARB ‡ merit a cloſer ob-

* Guldenſtædt's akad rede, &c. 56. 95.

† Pallas, travels, tom. i. p. 152.

‡ Rheum compactum, LINN.

ſerva-

ſervation. The ſiberian rhubarb * or rhapontic, grows in great abundance wild on the ſhores of the Ural and the Yeniſſey, in the daourian mountains, and ſeveral other places; and though the root of it, in regard to outward properties, is far inferior to the chineſe rhubarb, yet will not yield to it in intrinſic excellence †. It is even probable, that the ſiberian rhubarb, if planted on mountainous, dry, and warm places, would be found equal to the chineſe.

Tea, properly ſo called, is not produced in the ruſſian empire; but it is by no means deficient in well-taſted and wholeſome ſubſtitutes for it. Among the TEA-PLANTS, which may be actually uſed as ſuch, the ſaſſafras ‡ is principally to be remarked which grows abundantly in the ſouthern and lofty ſnow-mountains of Kolhyvan, is gathered in quantities under the name of TSCHAGIRIAN TEA, and drank by the common people. Theſe dried leaves are ſo like the chineſe tea in taſte, effect, in the gold colour which they impart to the water, in ſhort in every particular, that very little ſelf-denial is requiſite in habituating oneſelf to this refreſhing liquor. The rhododendrum dauricum likewiſe poſſeſſes ſo many qualities in

* Rheum undulatum.

† Guldenſtædt's akadem. rede, &c. 97. Pallas, travels, rom. i. p. 15. 380. tom. ii. p. 559. tom. iii. p. 8. 235. 155.

‡ Saxifraga craſſifolia.

com-

common with the real tea-leaves, in form, ſize, and fragrance, that ſeveral naturaliſts have held it to be the true tea-ſhrub. The polipodium fragrans alſo deſerves to be noticed here, a curious, beautiful, and exceedingly odoriferous fern, which is gathered by the Buræts on the ſummits of rocks, where it grows out of the crevices, and is taken as a wholeſome tea againſt ſcorbutic and colicky complaints. It may be drank likewiſe for its agreeableneſs, and it improves the common green tea to the utmoſt excellency of flavour by putting one or two leafy-ſtalks with it in the water. The odour of this herb is ſo penetrating and laſting that it pervades whole cheſts of clothes and drawers full of paper, which retain it for a great length of time *.

The laſt rubric of this long roll of mercantile vegetables ſhall be the SALT-HERBS, which are probably nowhere in the world found in ſuch large quantities, and in ſo great a variety as in the ſouthern ſteppes of the ruſſian empire. If the ſalt-plants, which nature has produced ſo liberally in theſe vaſt and wild diſtricts of land unfit for agriculture, were to be uſed for the preparation of ſoda, which is indiſpenſably neceſſary to ſeveral manufactures, and forms an important article of commerce, Ruſſia, inſtead of having this dear

* Auſwahl. œkon. abhandl. tom. i. p. 27. Pallas, travels, tom. iii. p. 96—293.

com-

commodity to buy, would be able to ſell much of it abroad. Nowhere are ſalt-plants in greater abundance than on the low grounds about the ſhores of the Caſpian, particularly round the bays and gulfs, and at the mouths of the Ural, the Volga, the Terek, in the neighbourhood of all the ſalt-lakes, great and ſmall, and here and there in the flat part of the tauridan province. The inexhauſtible ſtores of theſe regions, with the greateſt conſumption of it, would always prevent the neceſſity of artificially ſowing the ſoda-plants, as in Spain and Languedoc; the only precaution that muſt be obſerved in the gathering of them is never to cut them till the ſeeds are ſo ripe as to fall out of themſelves, and to give birth to a new crop. Theſe herbs have hitherto only been uſed by the Kalmuks and Armenians for the aforeſaid purpoſes; and Ruſſia procures annually from France and Spain a no inconſiderable quantity of prepared ſoda *.

The facts that have been now adduced will be ſufficient to give an idea of the ſtate of ruſſian agriculture in general. Defective as the practice of farming is in ſome parts, it nevertheleſs conſtitutes the moſt material branch of national employment, and its products the moſt important article of annual acquiſition. The grand objects of

* Pallas, von den ruſſiſchen ſodepflantzen, im St. Peterſb. journal, 1782, tom. iv. p. 110.

agri-

agriculture, corn, hemp, and flax, are the eſſential ſources of the national wealth, as being not only adequate to the home conſumption, but alſo ſupply the moſt copious articles of exportation. Ruſſia is never obliged to purchaſe corn from foreign countries, though by the diſtilleries an enormous quantity of this moſt indiſpenſable of all the neceſſaries of life is detracted from its proper and moſt uſeful deſtination. The deficiency ſuffered by ſome of the too northernly or unfruitful diſtricts is ſupplied from the ſurplus of other more favoured provinces; and after deducting the twofold domeſtic conſumption, there ſtill remains every year a very conſiderable quantity for foreign markets. In the year 1793 the exports of the ſaid RAW products, excluſively of all articles that have undergone any preparation, amounted to upwards of fifteen millions of rubles; a ſum which is to be conſidered as the net produce of agriculture, and the total whereof is doubled by taking into the account the manufactured objects. With all the importance that we muſt allow to the ruſſian agriculture from a view of theſe undeniable facts, it cannot, however, be affirmed to have attained to any great intenſive perfection. If we reflect upon the monſtrous population excluſively employed in rural induſtry, and the natural bleſſings enjoyed by the ruſſian empire in ſo many diſtricts of its wide circumference, the produce of the huſbandry, important as it is upon the whole, we

ſhall find not by any means correſpondent with thoſe advantages. Agriculture can only then be ſaid to flouriſh, when the greateſt poſſible number of inhabitants are employed in it, and at the ſame time the greateſt poſſible production is obtained. This is only the caſe with ſome few particular diſtricts in Ruſſia; and it cannot therefore be thought ſuperfluous to conclude this head with ſome obſervations on the general impediments and diſadvantages ſuſtained by rural œconomy in Ruſsia.

Every country is placed in certain natural and political relations which materially determine the activity of its inhabitants, and conſequently the ſources of its national wealth. A fertile ſoil excites mankind to agriculture, rich mines invite them to explore and work the metals, the vicinity to the ſea inclines them to commerce; and where theſe branches of gain are not ſufficient to employ the population, there, under certain favourable circumſtances, workſhops and manufactories ſpring up. In almoſt all civilized countries ſeveral of theſe ſources of ſubſiſtence are occupied at once, but the national induſtry is generally directed to thoſe objects to which nature has in a manner diſpoſed them, and no meaſure would be more abſurd than to attempt to divert the great maſs of activity, by artificial means, from thoſe objects, and direct it to others. The ruſſian empire is in its natural ſituation and frame ſo happily conſtituted, that its inhabitants are not only by no means

means impeded in the free exertion of their activity, but on the contrary are roufed and encouraged, by the abundance and diverfity of nature, to all conceivable modifications of induftry. And yet agriculture is even here the fureft and beft fource of the public profperity; and moft parts of Ruffia offer to this occupation in particular the choiceft means and moft extraordinary advantages. Unadvifeable, therefore, as it would be to lay down any rule for the courfe of the national induftry, or to confine it in any manner, it is neceffary however to affign the firft and moft important place among the national employments to agriculture, and to encourage the extenfion of it by all practicable methods. — The means afforded to this end by theory as well as by experience are reducible to two leading principles, the univerfal validity whereof no one will ever doubt: firft, that the greateft poffible number of inhabitants fhould devote themfelves to this activity; and fecondly, that, with this activity, they fhould obtain the greateft produce at the leaft expence of time and powers. The former implies a careful regard to the diftribution of the employment, the latter a prudent direction and regulation of it.

That agriculture, like every other general occupation, muft have for its bafis a numerous population *, is a truth that needs no demonftration

* By populouſneſs, in contradiſtinction to population, is underſtood the proportion the number of people bears to the

here, but the conſequences of it are of the utmoſt importance. As the multiplication of the people can neither be forced by artificial means nor yet by violent meaſures, nothing remains for a wiſe government to do but to provide that the preſent number of people be as much as poſſible employed, and in the moſt beneficial manner. The whole body of perſons in a country whoſe abilities are applied to unfruitful employments, are exactly the ſame as if they were not in being; their negative exiſtence is even a heavy burden to the country, as every individual who only conſumes requires a productive individual whoſe labour muſt enſure the exiſtence of the former. It is not the multitude of perſons, but their adequate employment and the product of their labour that conſtitutes the

---

ſurface of the ground they live on. A country, therefore, having a great population may yet not be populous, as the reverſe may alſo be the caſe. — The word employment is here taken in a political ſenſe, denoting that activity by which any thing is produced or required. Employment in general is of two kinds: it is either permanent and realizes itſelf to its object, as, for example, the labour of the countryman and the manufacturer: or it is not permanent, realizes itſelf to no object, and leaves behind it no token or value for which at any time afterwards a like quantity of labour may be had, as, for example, the employment of a domeſtic ſervant. The former is denominated productive, the latter unfruitful employment. Farther to unfold this idea would lead us greatly beyond our limits; what has been ſaid will probably be ſufficient in explanation of the above remarks.

wealth

wealth of the country; and nothing is more manifeſt, than that of two countries poſſeſſing an equal number of people, that in reality ſhould be called the moſt populous which applies a greater part of its inhabitants to productive employments, and that the equal proportion of the number of perſons in both cannot long remain, becauſe the population in the one will as rapidly increaſe as it will decline in the other.

Complaints of the want of a ſufficient population are frequently heard in Ruſſia, without inquiring whether in many diſtricts this defect be real or only a conſequence of the proportionately ſmall, badly ſelected, or unequal activity. Nobody will deny, that the ruſſian empire, even in its moſt populous provinces, is capable of a ſtill ſtronger population; but how much greater would be the wealth, how much more flouriſhing the condition of this country, if only the actual population were generally employed in the moſt advantageous manner to the welfare of the whole. In vain does nature preſent her copious ſtores, if ſloth and ignorance refuſe to employ them; there are always in Ruſſia many thouſand and thouſand ſquare miles of the fineſt and moſt fertile ſoil, not inhabited but lying uncultivated; again, there are always among its tribes numerous hordes of nomades, who ſhun every toilſome culture; nay, even among the paramount nation, whoſe elevated and refined activity ſhould hold as it were the balance of the

reſt, are numerous claſſes of perſons, who are not only drawn off from agriculture, but whoſe employment is entirely loſt to the country.

We cannot here be thought to ſpeak of the armies, as in an empire of ſuch wide extent, whoſe borders touch on ſo many foreign countries and ſeas, and whoſe relations are implicated in the fates of two quarters of the globe, muſt be kept up an armed force proportionate to its magnitude and internal ſtrength to defend its vaſt poſſeſſions againſt attacks from within and without, and to be able impreſſively to aſſert its honourable ſtation in the general political ſyſtem. The monaſtic ſtate, likewiſe, which is ſo highly injurious to induſtry in ſouthern Europe, by enliſting under its banners ſuch numerous hoſts of idlers, has been rendered ſo harmleſs and even benign by the wiſe limitations of the great emperor and his illuſtrious ſucceſſor, that we cannot reckon its exiſtence among the obſtacles to ſocial activity. Inſtead of theſe two diſadvantages, which in Ruſſia are proportionately of ſmaller influence than in moſt countries of Europe, the employment of the nation here ſuffers under the preſſure of two adverſe circumſtances which bear particularly hard on agriculture and greatly leſſen the product of that induſtry. We have here chiefly in view the practice of keeping ſuch a great number of domeſtic ſervants by almoſt every land-owner both in town and country. The number of boors that are thus drawn

drawn off from the moſt uſeful of all occupations, and employed in unprofitable houſehold ſervices exceeds every idea that can be formed of it in other countries, as here the ſtate of vaſſalage favours this ſpecies of oriental luxury as well as leſſens in general the value of men and their labour. In a country where every one is obliged to hire perſons for his ſervice, this kind of luxury can never riſe to ſo high a pitch as here, where the lord of an eſtate, by converting his boor into a lacquey, makes a grand figure at the ſlight expence of a trifling tribute in money or ſome inconſiderable feudal ſervice, and where the maintenance of him ſeldom exceeds the ſcanty gratification of the primary wants of life. It may be affirmed, without exaggeration, that in the houſe of a ruſſian nobleman five or ſix times as many domeſtics are kept as in families of equal rank in any other country in Europe, and the retainers of both ſexes in ſome of the great houſes in Peterſburg amount to a hundred-and-fifty or two hundred perſons; and that of Leof Alexandrovitch Nariſhkin might be mentioned as an inſtance. All the out-houſes and offices of perſons of quality ſwarm with what are called dvortzoviye leudi, whoſe numerous poſterity ſeldom or never go back to the plough; but, grown up in idleneſs, increaſe and multiply for the ſame deſtination. In the country theſe noxious canker-worms of the ſtate are indeed of ſome uſe to their owners by the

mechanical arts which the maſter has occaſionally cauſed them to be taught, and by whom the want of town artiſans and manufacturers is intended to be ſupplied; but in the larger towns this is very ſeldom the caſe, and even at the houſes of the quality there is always beſides a great multitude of loitering ſluggards in the ſtricteſt ſenſe of the term. If it were poſſible to make out an accurate liſt of all the unneceſſary domeſtics and retainers at the houſes of the nobles in the whole circuit of the empire, we ſhould ſtand amazed at the loſs ſuſtained by the productive induſtry of the country through this wanton prodigality, the conſequences whereof to the country and even to individual proprietors are of the utmoſt importance and deſerve to be earneſtly conſidered by every enlightened and unbiaſſed patriot.

Another abuſe by which agriculture is deprived of a multitude of laborious hands, is the frequent migration of country-people to towns where they find an eaſier and more commodious means of gaining their bread. Not only on all the eſtates belonging to the crown, but likewiſe on moſt of them that are the property of noblemen, the boor pays his impoſts not in natural products, but in money. This annual pecuniary tribute, which is called obrok, as we have ſhewn before, is levied on every male head, and is rated to the boors of the crown generally at three, but to the boors of the nobility on an average at about five rubles;

in

in the worſe diſtricts not unfrequently leſs, in good often much more. In the country it is ſometimes very difficult for the boor to raiſe this ſum by huſbandry and from the ſale of the ſurplus of his products; whereas in the towns he is certain of earning that and even more in a ſecure and eaſy manner. The landlords are, therefore, not diſpleaſed when their boors have an inclination and an opportunity for ſo doing; they grant them without difficulty paſſports or permits to leave their homes and ſeek a livelihood in the towns. Here the boor in a ſhort time becomes any thing, in which he can find employment: pedlar, footman, mechanic, artiſt, merchant; he always takes care to have good profit, and not unfrequently by induſtry and frugality, or by lucky adventures he ſoon is a ſubſtantial man. In the ſame proportion as his income riſes, the revenues of his owner uſually increaſe; and the very boor, who in the country could only by ſevere exertions pay his ſmall obrok, pays in town five or ten times more, and ſometimes lays up conſiderable ſums beſide. True, the countryman ſeldom entirely forſakes his home; but during his long abſence the population ſuffers as well as the culture of his fields; the acquired property with which he returns is an additional incentive to his remaining acquaintance to ſeek in the ſame way an eaſier ſubſiſtence, and the aged boor, perhaps alſo grown infirm and diſaccuſtomed to agriculture, becomes, in the generality

rality of inſtances, an uſeleſs conſumer. — This practice, which, after all, is agreeable to the conſtitution of the country, and as long as the feudal ſyſtem ſubſiſts is in ſome degree neceſſary, in order to ſupply the want of free people in the towns, is not upon the whole deſerving of cenſure; but the abuſe it begets has in general very pernicious effects on the cultivation of the country. Of the boors who migrate to the towns, many of them are indeed as uſeful in another way; yet a very great part of them here waſte their time and abilities in utterly unprofitable employments. Large, ſtrong, and healthy people, who were habituated to the heavieſt labours of the field, are ſeen by hundreds in the reſidence and the government towns, hawking about eatables, figures of ſaints and other articles for ſale, which might as well be done by boys at a cheap rate, or employed in the culture of culinary vegetables, which would be a fitter buſineſs for women, while the moſt excellent lands in the heart of the empire are lying fallow or only laboured by children. — Generally ſpeaking, there is no civilized country in the world where there is ſuch a waſte of the time and the abilities of mankind; and it would not be difficult to prove, that Ruſſia, with the whole maſs of its human powers, partly not at all and partly unprofitably employed, might convert one of the moſt deſert regions of the empire into the moſt flouriſhing province. This great diſadvantage was

above five and twenty years ago a ſubject of deep concern to the late empreſs, as ſhe declared from the throne; and we cannot give a better ſanction to theſe ſhort remarks, than by concluding them with the very words of her Inſtruction*.

" Ruſſia has not only an inſufficient number " of inhabitants, but comprehends large tracts " of country, which are neither cultivated nor " inhabited. — In what a flouriſhing ſtate would " this empire be, if by wiſe inſtitutions we could " obviate or prevent ſo deſtructive an evil! — " It ſeems that, together with other cauſes, the " method lately introduced, in which the nobles " receive their impoſts from the boors is detri- " mental to the increaſe of the people, and to the " culture of the earth. Almoſt all the villages " pay their lords certain impoſts in money. The " proprietors, who ſeldom or never viſit their vil- " lages, rate each perſon at one, two, to five " rubles, without concerning themſelves how their " boors are to get together this money. — It " would of all things be extremely neceſſary to " preſcribe laws to the nobility, enjoining them " in determining the impoſts to be paid them to " act with more conſideration, and to demand " ſuch impoſts from the boor as ſhall be leaſt " likely to remove him from his houſe and from " his family. By this means agriculture would

* Cap. xii. ſect. 265—271.

" become

" become general, and the people in the em-
" pire would increaſe. But at preſent a coun-
" tryman remains perhaps fifteen years abſent
" from his houſe, goes to diſtant towns and places
" to ſeek his bread, and pays his impoſts every
" year."

To the general obſtacles to rural œconomy in the ruſſian empire muſt be added the lazy vagabond way of life of moſt of the nations inhabiting the ſouthern part of it, and particularly the larger half of Siberia ſuſceptible of culture. It is naturally to be underſtood that we are not here ſpeaking of thoſe particular races, whoſe inclement abodes ſeem rather to have been formed by Nature for the reſort of ſavage beaſts than for the habitation of mankind; but even in the moſt favoured regions there are tribes to whom the arts of agriculture are as yet entirely unknown, and who derive their ſuſtenance ſolely from the woods and waters, or from the rearing of cattle. Neceſſary as the procuring of theſe objects is, it is no leſs prejudicial that the induſtry of a numerous population ſhould be confined to the mere acceptation of the ſpontaneous gifts of Nature. A people maintaining itſelf by the chace, the fiſhery, or the breeding of cattle, requires not only a much larger ſurface of country for its ſupport, but it muſt chooſe out the place of its abode according to the advantages which it offers them for theſe occupations, and it is not unfrequently obliged to

remove

remove to another. Beſides the diſadvantages that hence ariſe to agriculture, the population is likewiſe in a very conſpicuous manner impeded. — In fact, the government has been as intent on converting the nomadic tribes to agriculture as to chriſtianity, or rather the former is not unfrequently a conſequence of the latter; accordingly theſe endeavours have happily ſucceeded with ſeveral nations and ſtems: others again obſtinately perſiſt in bidding defiance to all attempts that can be made to wean them from their extremely injurious ſloth. As ſuch a transformation is not to be effected by violent means, and the ſeveral meaſures that were adopted in the mild ſpirit of the late reign having apparently proved ineffectual, it becomes a queſtion highly deſerving of inveſtigation: what is the proper method of leading theſe tribes to more uſeful occupations, and how they may gradually be habituated to a more toilſome and permanent activity? Perhaps the ſureſt way would be to elevate their preſent employments by imperceptible degrees, and in endeavouring to introduce other branches of them with which theſe people are hitherto unacquainted. It would, for inſtance, be infinitely more eaſy to encourage the paſtoral people to a more careful attention to the breeding of ſheep, and to ſhear them for their wool, inſtead of forcing on them in the room of this badly managed mode of gaining their ſubſiſtence, ſome other in direct oppoſition

ſition to their preſent manner of life. By ſelecting and gathering the wild-growing plants that are uſeful for manufactures and trade, the nomadic people might likewiſe be very ſerviceable, without being under the neceſſity of abandoning their main occupation. As the impulſe to activity can only be rouſed by the ſenſation of wants, the increaſe of theſe is the firſt thing that ſhould be aimed at, and it would therefore be a wiſe political meaſure to aſſiſt the trading intercourſe of the nomades with more poliſhed tribes, in order to bring them more acquainted with the accommodations of an improved way of life, and to introduce among them a ſort of luxury which might ſtimulate them to greater induſtry.

It is plain from the foregoing facts that the ruſſian empire loſes a very conſiderable portion of its inhabitants partly by idleneſs, partly in uſeleſs employments, whoſe abilities might be applied to the advantage of culture; but even if all the people it has — after deducting the numbers requiſite for the ſervice of the ſtate, and for other appointments of equal weight — were to devote themſelves to agriculture, the whole of them together would not ſtill be ſufficient to cultivate in the moſt beneficial manner the ſuperficies completely capable of culture of this prodigious empire. Under theſe circumſtances, what rarely is the caſe, colonizings are really advantageous, and they may be conducted with very great ſucceſs, if the means are not

not wanting which a ſound political œconomy preſcribes to that end. The reign of Catharine the ſecond was in this reſpect of eminent conſequence to Ruſſia. Many thouſands of foreigners during that period came and ſettled as well in the northern as the ſouthern provinces, and the population, the induſtry, and the production of the ruſſian empire have received a ſignal increaſe ſince that memorable æra. The defects which muſt naturally have accompanied the firſt attempts of that nature, will be from experience more eaſily avoidable in future, if, as perhaps it may be expected, the government ſhould not henceforward loſe ſight of this important object *.

The ſecond principal means for bringing agriculture into a flouriſhing ſtate, is a ſedulous and enlightened direction of this induſtry. On the ſuppoſition that the whole maſs of people in a country that are able to work, and are not employed in other equally uſeful occupations, were addicted to agriculture, it would not thence follow that agriculture there was carried on in great perfection. The reſult of this employment depends

* The œconomical ſociety at St. Peterſburg have unfolded the principles upon which people ought to proceed in laying out new villages or colonies in uncultivated diſtricts, in a ſound and well-digeſted treatiſe highly deſerving to be read by all who are likely to have any concern in the matters to which it relates. See Auſwahl. œkon. abhandl. tom. iii. p. 27.

ſo

ſo much on the procedure of the countryman, on his ſupplies, on the conſtruction of his implements, on the choice of his culture, and on a hundred other circumſtances, that it would not be ſurpriſing if the conſequences of ſimilar exertions ſhould turn out very differently. A ſoil tilled by poor, unpractiſed, negligent boors, furniſhed with bad utenſils, can proportionately yield only a far inferior crop to that of another of equal extent, quality, and population, inhabited by ſubſtantial, induſtrious, and careful people. Nothing therefore is of greater conſequence than a rational direction and regulation of this moſt uſeful of all profeſſions, for eradicating prevailing prejudices, for the encouragement of application and induſtry, and for promoting the diſſemination of agricultural knowledge. Nowhere is this guidance and inſpection more needful than in a country where the ſyſtem of vaſſalage, at leaſt in many caſes, cripples the ſpirit of induſtry, where of courſe the countryman feels but little incitement to refine upon the means of perfecting his buſineſs, and where, even if he ſhould diſcover an inclination to it, it would be difficult for him to procure the neceſſary knowledge and helps. Ere we proceed to a more accurate detail of theſe impediments, it will be neceſſary to give a general delineation of the manner in which the eſtates of land in Ruſſia are tenanted and managed.

The

The value of an eſtate is eſtimated partly by the ſituation and quality of the lands, and principally by the number of male boors belonging to it. At the ſale or mortgage of a piece of ground, the latter forms the baſis whereupon the price of the eſtate is calculated, in proportion to which the other natural advantages are taken into the account *, and even the magnitude of an eſtate is in common

* This practice differs ſo much from the uſages of other countries, that what has been ſaid above, without ſome farther explanation, would with difficulty be underſtood. The price of a SINGLE man is naturally very different, according to his greater or ſmaller utility, his phyſical properties, his acquired abilities, and even according to the place where he is to be ſold. Thus, a young fellow is bought dearer than an old man: a girl that knows how to handle her needle and to do the work of a houſe, or a footman who can dreſs hair, will often coſt twice or three times as much, &c. The only equality in this matter is the pecuniary compenſation which the crown has fixed for each recruit to be raiſed; and this ſince the year 1786 amounts through the whole empire to 360 rubles. In many diſtricts the boors have to pay as far as 700 rubles for an able-bodied recruit; whereas a ſingle fellow is not unfrequently ſold for 100 to 120 rubles, and girls at 25 to 50 rubles. — But, on the other hand, with whole eſtates, where the BOORS ARE SOLD WITH THE LAND, and where old and young, grey-beards and children, healthy, and infirm, in ſhort, all the people of the male ſex, are included, the price of them upon an average is ſomewhat more determinate; though here too, much depends on the nature of the ſoil, the ſituation of the eſtate, and other circumſtances. The national lombard, in all mortgages which it accepts, takes the boor at 40 rubles; but in the ſale of an eſtate they are ſeldom or never eſtimated at ſo low a price.

common occurrences never otherwiſe determined than by the number of the *ſouls*, by which term only the boors of the male ſex are underſtood. By theſe likewiſe the income ariſing from the eſtate is generally ſettled. Some proprietors diſtribute all the reſerved land among their boors, taking from them only the obrok; others retain, beſides the obrok, a part of the lands to their own uſe, which the boors are obliged to till by feudal ſervice; others again take no obrok, but deliver to the boors only ſo much land as is neceſſary for their ſupport, and cauſe all the reſt to be laboured for their own immediate benefit. Though the diſpoſition of the eſtates is reducible to theſe three main kinds, yet in real practice a great difference obtains, as the fixing of the obrok, the feudal ſervice, the proportion of the manor-grounds and peaſantry-lands, &c. depends occaſionally on the will of the proprietor, who in this matter is limited by no law. A great part of the nobility never live on their eſtates, and conſequently never addict themſelves to farming. Where merely an obrok is to be collected, the perſonal preſence of the owner is unneceſſary, as every village pays its tribute yearly to its ſtahroſt or alderman, who

---

In the government of St. Peterſburg every ſoul is paid for, according to the quality of the eſtate, from two to three hundred rubles; in other parts of the empire the price is commonly much lower, but at preſent hardly anywhere under a hundred rubles.

tranſmits

tranſmits it to the feudal lord; in the two other caſes, the eſtates, in the abſence of their proprietor are managed by what are called diſponents, or even only by prikaſchtſchiki or clerks, with full powers, which latter are choſen from the vaſſal ſervants, in whom ſome confidence may be repoſed *.

Having

* This general deſcription, however, principally ſuits the great-ruſſian provinces, and on the whole ſo many variations are ſeen in it, that we muſt run out into a very prolix detail if we would treat this ſubject to its full extent. In ſeveral governments, e. gr. in Livonia, Eſthonia, Courland, the obrok is not at all in uſe, but every farm is managed by ſerfs; in the Ukraine, in Finland, in Ekatarinoſlaf, Voſneſenſk, &c. the boors are partly glebæ adſcripti, and partly quite free people who hire their land of the proprietor, paying for it either money and products, or undertake feudal ſervice. The odnodvortzi or petty freeholders, the number of whom in Ruſſia proper is extremely great, either perform their agriculture themſelves, or have it done by hired people; beſides, there is a multitude of free boors, ſubject to no vaſſalage, as, the Tartars, the foreign coloniſts, &c. among whom neither feudal ſervices nor any other perſonal duties are in practice. — On the large eſtates, for example of count Razumoſiky in the Ukraine, all the boors have their own parcels of land, which they uſe at pleaſure, but are not allowed to ſell. They are at liberty even to remove from the manor, but in that caſe their lands and tenements fall to the lord. The lord has his particular lands, conſiſting of arable, meadow, and foreſt, and lie diſperſed in one part and another of the domains. Part of theſe are laid out in farms, as conveniency may ſuit with diſtilleries and brew-houſes, in one place agriculture is purſued, in another is the ſtud of horſes, in others again cattle

Having premiſed thus much, we may now form ſome judgment of the impediments which the feudal ſyſtem oppoſes to agriculture and its farther progreſs. In the firſt caſe, that is, when the boors are only put upon the obrok, and have the free occupancy of all the tracts of country, as they have on all the eſtates of the crown, and on moſt of thoſe belonging to the nobles, the preſſure of vaſſalage is in fact but very ſlight, if the tribute only be proportionately fixed. It being perfectly indifferent to the owner of the eſtate, in what manner and by what means the boor procures his livelihood, ſo he do but regularly pay his obrok, it follows that the latter, under this adjuſtment is in ſome ſort his own maſter, as being free to diſpoſe of his activity, as well as of the ſhare of the ſoil committed to him. Under ſuch allowances, eſpecially with a people ſo alert, ſo ſpeculating, and ſelf-intereſted as the Ruſſians, induſtry already receives, without any encouragement, a powerful impetus; and it would perhaps

---

are kept, and ſome are paſturages for ſheep, For all theſe ſeveral buſineſſes the boors muſt find labourers, or do it as feudal ſervice themſelves; each perſon commonly working two entire days every week for the lord of the manor. Guldenſtedt's travels, tom. ii. p. 382. On many eſtates the boors work three or even four days in every week for the lord. — As the civil relation in which the ſeveral claſſes of people ſtand to each other has been repreſented in a former part of this work, to dilate any farther on that matter here would be needleſs.

be

be very deſirable, that this method of farming ſhould be rendered general throughout, if it were not attended with the above-mentioned diſadvantage, that the boors neglect huſbandry to ſeek an eaſier profit by other profeſſions. The blame of this, however, lies principally with the covetouſneſs of the proprietor in purſuing his momentary private intereſt to the laſting injury of the whole, and therefore is too ready to grant a paſs to the boor, becauſe by this means he perceives the poſſibility of raiſing his obrok. At the ſame time it is not to be denied, that the ruſſian boor himſelf is ever ready to exchange his plough for another buſineſs whenever he has an opportunity to take it up. It is therefore thought, and probably not without reaſon, that agriculture has ſuſtained a conſiderable injury by the ſeizure of the eſtates of the clergy, as the monaſteries cauſed it to be conducted chiefly by feudal ſervices, whereas the boors, ſince they belong to the crown, pay only their obrok, which they collect by other means of profit.

Eſtates naturally bring in the greateſt revenue, when they are neither let out, nor placed upon the obrok, but when the owner himſelf exerciſes farming upon them. As the proprietor of an eſtate can take every advantage and impoſe on his boors what feudal ſervices he pleaſes, it is probable, that culture on the whole is the greateſt gainer by this method of farming; but it is no leſs

probable, that the boors are [illegible] if they were rated at a certain pecuniary tribute or put under a contractor, to whom limits are uſually preſcribed in regard to feudal ſervice. Far be it from us to wiſh to aggravate the lot of a claſs of people already oppreſſed, by tyrannical propoſals, or to build the proſperity of agriculture on the ruin of the peaſantry; but, in conſidering objects of ſuch importance in a general point of view, we are not to be ſtartled at mere epithets. Having delineated the advantages and diſadvantages of the obrok, we will now, with the ſame impartiality, examine into the benefits and detriment of the feudal ſervice, particularly in reference to the conſtitution of the ruſſian empire.

By feudal ſervices it is well known are meant the ſeveral kinds of labour which the ruſtics are obliged to perform to their landlord, or to the ſeignorial proprietor of the manor, either entirely for nothing or for a very diſproportionate recompenſe. In a country where not only the earth and ſoil, but alſo the boor himſelf belongs to the freeholder, the determination of theſe ſervices depends on the will of the latter. As the owners do not always perceive or rather but rarely perceive their true intereſt ſo clearly as to proceed in this matter with due diſcretion, it is not to be expected but either the magnitude or the kind of theſe ſervices ſhould in moſt caſes fall heavy on the countryman, becauſe the feudal ſervice always takes precedence of the private

private induſtry of the boor, and conſequently hinders him and puts him back in his own employments. In ſhort, it is eaſily imagined that the feudal ſervices, as compulſory taſks, are never performed with the ſame induſtry, the ſame exertion, and the ſame nicety with which the boor would freely work for his own immediate benefit. Theſe general diſadvantages which ariſe entirely from abuſes, and can only be termed general under that ſuppoſition, are however in many caſes overbalanced by the utility produced by the feudal ſervice under certain limitations. In the firſt place it is clear, that in this manner far more land is cultivated, and conſequently the production is far greater; again, the boor is under the neceſſity of employing his time and abilities in the moſt uſeful manner, in lieu of the money-dues which he otherwiſe muſt pay, and which he would provide for perhaps in a manner more convenient to him; and the feudal ſervices are not unfrequently a ſchool of agriculture for the country people, as by them they learn inventions and improvements in huſbandry, which otherwiſe perhaps would never come to their knowledge. — In application to the preſent ſtate of the ruſſian empire thoſe diſadvantages are of leſs, and theſe advantages are of greater conſequence. Here theſe feudal ſervices are properly not performed for nought, as, when there is no obrok to be paid beſide, they are in lieu of a rent for the lands held by the boor, and

when they are not fixed by the dictates of inſatiable or tyrannical avarice, they are, for the foregoing reaſons, far preferable to the money-tribute alone. As, moreover, the ſale of the country-products is in ſeveral parts of Ruſſia attended with difficulties which it is beyond the power of the boor to remove, he would either purſue agriculture merely as a means of ſubſiſtence, or neglect it altogether, were he not by the feudal ſervice compelled to a greater production.

All this being calculated and weighed together, it appears, that no kind of farming, in the preſent ſtate of things, and without building on idle expectations, could be better ſuited and more advantageous to the whole and to the individual, than a ſtated proportion of the obrok and the feudal ſervices fixed and eſtabliſhed by law. A moderate money-tribute ſtimulates the countryman to induſtry and traffic, that he may turn his products into caſh, and begets in the proprietor a certain intereſt in the welfare of his boors, as the ſecurity of his receipts is dependent on their ſucceſs, at the ſame time that it facilitates the proſecution of other collateral means of gain. Aſcertained and reaſonable feudal ſervices prevent the neglect of agriculture, help to increaſe the production, and, as examples of improved culture, may uncommonly contribute to the advancement of huſbandry. For favouring liberty and induſtry ſtill more, it might be left to the option of the lord

to

to take payments in kind of his boors in lieu of feudal ſervice, ſtill on the ſuppoſition, however, that the proportion here likewiſe ſhould be ſettled by law. Any plans for rendering this matter practicable will certainly not be expected here; they can only with propriety be framed after due trial, by honeſt and enlightened land-owners intimately acquainted with the local relations, as they can only be enforced, and the difficulties they will have to encounter can only be ſurmounted by the ſtrenuous exertions of the legiſlative authority.

In the mean time, however near or remote the hope of ſo beneficial and important a reform may appear, it may not be in vain to remark the conſequences which would thence enſue to the improvement of agriculture. The countryman, who would then have no arbitrary impoſition of burdens to fear, would pay his dues and perform his feudal ſervice, as equitably aſcertained by law, with greater ſatisfaction; and, as he could employ the remainder of his time and abilities as his own free property, he would feel more inclination and ſpirit to a better application of them. Farther, as the generality of proprietors would be induced to cultivate a portion of their lands on their own account and to their own benefit, the produce of them would no longer be ſo indifferent a concern as it is at preſent to all thoſe who are content with the bare receipt of the cuſtomary obrok. The nobles would naturally then be more ſedulous than they

have hitherto been to acquire a knowledge of the farming buſineſs, the diſſemination whereof would not only, by means of the feudal ſervice, be more general among the country-people, but the nobility themſelves would promote it, for the ſake of becoming, by the greater proſperity of the boors, more ſure of their pecuniary income. The means to this end would be facilitated in ſeveral ways, ſince it has been cuſtomary with the ruſſian nobility to travel into foreign countries, and to learn foreign languages, and ſince the free œconomical ſociety at St. Peterſburg have with ſuch an honourable zeal, and ſo diſintereſtedly and beneficially anſwered the purpoſes of their inſtitution. The writings of this ſociety, which have appeared during the laſt thirty years in the ruſſian language, contain a good fund of practical maxims and projects, moſtly adapted to local exigencies, for the improvement and extenſion of huſbandry. In them may be ſeen directions how the methods of culture now in uſe may be multiplied and elevated, or new ones be introduced; they furniſh means for preventing the failure of crops, for repairing the devaſtations of the maggots in corn, and for curing the diſeaſes of cattle; they recommend a multitude of tried projects for improving the preſent defective and inadequate implements of huſbandry, &c. Sooner or later, perhaps, their patriotic endeavours may attain their end; but certain it is that it would be more ſpeedily and effectually

effectually done in the beforementioned circumſtances.

We have touched upon ſome of the general defects and impediments which retard the progreſs of agriculture in Ruſſia; we have even preſumed to deliver an opinion how theſe defects might be remedied, and theſe hindrances removed or diminiſhed. Though it be the common fault of projects, that they are always well intended but ſeldom practicable, ours at leaſt muſt eſcape the cenſure of being founded only on an ideal baſis. Convinced that the entire abolition of the ſtate of vaſſalage would be at preſent accompanied with inſurmountable difficulties, and that ſuch a beneficial reform is not ſo likely to be effected by laws and imperative commands as by a change in the general way of thinking and by a greater degree of intellectual improvement, we have all along taken the preſent condition of the people as our leading principle, and only endeavoured to call the attention of thoſe whom it may concern to this important truth: that the moſt infallible method for making agriculture flouriſh is by relieving the countryman and ſecuring his exiſtence by law againſt the arbitrary power of his manorial lord. What member of the community, what truly enlightened land-owner will deny or ſuſpect the truth and general ſoundneſs of this maxim? Who would not wiſh to ſee it put into execution?

Indeed

Indeed farming in general did receive during the late reign ſo many and powerful encouragements that its progreſs in that period was very conſiderable. Numberleſs tracts of waſte lands were occupied by coloniſts and huſbandmen, or granted to individuals for rendering them uſeful; attempts were made to gain an acceſs for agriculture among ſeveral nations or claſſes of people hitherto idle, and to attach the countryman to it by various means and inſtitutions *. By the erection of new towns, by the eſtabliſhment of public granaries, by making rivers navigable, by the encouragement of trade and manufactures, the barter and ſale of the country-products have been facilitated to an uncommon degree.

The foundation of the œconomical ſociety has been of great importance to huſbandry in more than one reſpect; not only by diſſeminating through the papers of its members a variety of uſeful information, but alſo by propoſing premiums it has excited the induſtry and application of the countryman. Freeholders of all ranks have taken upon them to try and to execute their projects, and a ſpirit of activity and diligence has by theſe exertions been diffuſed to the remoteſt re-

* Among the later ordinances promulgated concerning agriculture, two principally were of great conſequence. By one of them a CORN-TAX was impoſed in moſt of the governments, and the other ordered THE SALE OF ALL THE CROWN-LANDS THAT ARE UNOCCUPIED.

gions.

gions. Among the more wealthy proprietors there are perſons who have qualified themſelves for farming their own eſtates, and there are now ſeen in many parts of Ruſſia eſtabliſhed farms which might vie with the beſt in ſeveral other countries. To deſcend to particulars would occupy more room than we can ſpare from the ſeveral ſubjects we have yet to treat of; and indeed we may have already from the importance of this article, been tempted to dwell too long upon it, at leaſt in the opinion of ſome of our readers, with whom it may not excite an equal intereſt; but ſeveral of the facts here mentioned will be ſeen confirmed as we proceed.

SECTION V.

Horticulture.

THE remaining branches of productive induſtry can properly be conſidered as no more than collateral employments of agriculture; and, as the products ariſing from them form no part of foreign commerce, and conſequently have no ſtatiſtical importance, we may compriſe the following ſections of this book in ſo much the narrower compaſs. None of theſe employments is ſo nearly related to the culture of fields as the CULTURE OF GARDENS, as the two ſpecies of induſtry not unfrequently have for their object the raiſing of the ſame

ſame products: the latter, however, differs in this, that it is chiefly employed for mere conſumption, and demands a more confined but more careful culture. The ſcene of this activity we muſt principally lay in middle and ſouthern Ruſſia. If, as we have heretofore ſeen, a great part of the ruſſian empire be unfit for producing the commoneſt fruits of the earth, it may be expected that a ſtill greater part by far of its ſurface is loſt to gardening; and if there be tribes who uniformly reject the ſimple and lucrative buſineſs of agriculture, it is natural that there ſhould likewiſe be thoſe to whom the more artificial and leſs profitable culture of gardens is utterly unknown. On the whole it may be even ſaid of this induſtry, that it correſponds but very imperfectly with the riches and liberality of nature; and though the majority of its objects are here and there even wild and in plenty, yet human induſtry has done but little either to diffuſe or to improve it.

We may ſpare ourſelves the needleſs trouble of ſpecifying by name all the CULINARY VEGETABLES that are cultivated in Ruſſia; it will be better to confine ourſelves to the mention of ſome ſpecies, which are worthy of our notice as articles of food. Of this ſort are, for example, the cabbage, the conſumption whereof in all poſſible forms, but chiefly as ſour-kraut, is immenſe; and for the greateſt part of the year ſupplies a daily diſh to the lower claſſes. In no leſs general uſe

are

are onions, garlic, and cucumbers, which are frequently eaten raw by the common people, with whom they almoſt everywhere ſupply the place of a ſallad. With the country-folks of Finland turnips are not unfrequently a ſubſtitute for bread, but in proper Ruſſia they are not very commonly eaten. — Moſt kinds of pulſe grow there, but the cultivation of them is not in all parts alike. Turkiſh beans, as they are called here, and by us french-beans, are frequently found in the gardens of the ſouthern diſtricts, but in the northern provinces of Siberia they ſeldom ripen. Beans and peas are generally very common; lentils, on the contrary, are rarely cultivated, and in Siberia not at all. — Carrots, parſnips, chicory, truffles, and other roots are ſpontaneouſly produced by nature in the regions to the ſouth; in the middle and northern they are pretty frequently raiſed in gardens. — Theſe latter alſo contain a great variety of edible muſhrooms, which at leaſt ſhould be mentioned, becauſe they are not eaſily gathered and eaten elſewhere in ſuch numbers.

Theſe then are nearly all the objects cultivated by the countrymen in kitchen-gardens. The culture of the finer vegetables is only carried on in the neighbourhood of large towns, but there with ſuch ſucceſs that the ruſſian gardeners are univerſally allowed to poſſeſs a peculiar talent that way, and it is ſeen by numberleſs examples, that the Ruſſians only want a few directions and more encouragement

ragement for excelling in every kind of culture. In ſpite of the difficulties attending horticulture about St. Peterſburg, from the rudeneſs of the climate, yet the choiceſt culinary vegetables are raiſed ſo early, in ſuch perfection and in ſo great abundance, that they are to be had at every ſeaſon of the year, and generally cheaper than in many parts of northern Germany. As an inſtance of this induſtry we will only mention aſparagus, which in the government of Moſco and ſome others is ſo much cultivated, that they are ſent round the country far and wide as an article of trade. The ſame may be ſaid of artichokes and other tender vegetables, which in ſeveral places the countrymen not only underſtand how to cultivate, but alſo to keep for every ſeaſon. — On the whole, however, kitchen-gardening, particularly in the interior provinces, is but very miſerably managed, though in many diſtricts it might be made a profitable branch of buſineſs, eſpecially for the female ſex. Habituated to a ſimple manner of living, and attached to his national cuſtoms, the common man contents himſelf with cabbage, onions, and cucumbers; and, as the ruſſian cuſtomary meals render no great change of vegetables neceſſary, we therefore ſee, even at the tables of the higher claſſes, thoſe of the great cities excepted, ſeldom any other than the ordinary kinds of them.

So

So much the richer is Ruſſia in FRUIT-BEARING SHRUBS and wild berries of every ſpecies; the latter are therefore gathered in incredible quantities, and eaten either raw or preſerved with honey and ſugar. It would not be eaſy to point out a country where this confectionary is more current than here. Among the countleſs multitudes of wild and planted berries, the cranberry * at leaſt deſerves to be particularized, as ſupplying the want of lemons in the northern diſtricts by its ſalutary acid juice, and is even not unfrequently uſed in St. Peterſburg for ſimilar purpoſes. The other excellent berries, likewiſe, are chiefly peculiar to the north of Ruſſia as well as to all Siberia; the large garden-ſtrawberry or hautbois are even found wild in the territory of Irkutſk. On the altayan mountains the red currant grows to the ſize of an ordinary cherry, and ripens in large bunches which are of an excellent flavour. The conſumption of all theſe little wild growing fruits is exceedingly great. Beſides the prodigious quantities which are generally eaten raw or preſerved in ſugar and honey, they are uſed in preparing ſeveral cooling and ſpirituous liquors †. — The hazelbuſh is found over all Ruſſia, as far as the Kama; but not in Siberia; it is particularly plenty in the region between Simbirſk and Kazan, where it gives

* Vaccinium oxycoccos. In ruſs, klukva and ſhuravika.

† Herrmann's ſtatiſt. ſchilder. p. 227.

riſe to a branch of trade not inconſiderable, as a great part of Ruſſia and all Siberia are hence ſupplied with a ſweetmeat in very general uſe, eaten in the faſts with nut-oil. As in all the towns and villages wherever we go, we ſee the common people eating nuts by way of paſtime, we may thence form a concluſion of the vaſt conſumption of them. A few years ago in the aforeſaid part of the country a weight of four pood at the firſt hand was worth about a ruble, and no farther off than the next towns, the price was already one and a half or two rubles *. — The well-flavoured cedar-nuts are found about the Ural in great plenty.

A culture entirely peculiar to the ſouthern provinces of Ruſſia is that of the SUGAR-MELONS and WATER-MELONS, or arbouſes, which only thrive in the open air to the 52d degree of latitude. In moſt parts of this region, particularly towards the Volga, the Don, and the Ural, theſe fruits are raiſed in ſurpriſing quantities, as the culture requires but little trouble. The melon-gardens, which from their ſize might rather be called fields, are uſually ſurrounded with nothing more than a ſlight fence, juſt ſufficient to keep off the cattle, and divided into long beds, between which, in the oriental faſhion, little channels are raiſed or cut in the clay, for properly watering the plants. For this reaſon theſe gardens are always

* Georgi's travels, tom. ii. p. 798.

laid out contiguous to a ſtanding or running water, which ſometimes is brought into the channels by an engine worked by a horſe. The melons require a more careful culture, eſpecially the ſuperior ſorts, as cantaloupes and the like; whereas the arbouſes more eaſily come forward, and with little pains they are brought to an extraordinary bulk. In the government of Ekatarinoſlaf they are treated with ſcarely more care than the moſt vulgar field-fruits; and yet on every field there are arbouſes weighing thirty pounds, that in point of ſucculence and mild flavour cannot be excelled *.

The common ORCHARD-FRUITS ſucceed everywhere in the middle and ſouthern part of Ruſſia; and on the Volga and the Oka, in Little Ruſſia, Caucaſus, Taurida, &c. really large orchards are ſeen: nevertheleſs theſe diſtricts do not by far produce fruit ſufficient for ſupplying the whole empire, and particularly north Ruſſia and Siberia. As there ſeems to be but little diſpoſition to multiply and improve the preſent kinds of fruit, or to dry and preſerve what they have, it need not excite our ſurpriſe, that Ruſſia, notwithſtanding the productiveneſs of its ſouthern provinces, ſhould import a very conſiderable quantity of foreign fruits. In the year 1794 only at St. Peterſburg

* Pallas, travels, tom. i. p. 301. Preiſſchriften und abhandl. der ökon. geſellch. tom. i. p. 200.

were brought in to upwards the value of 636,000 rubles, among which however were ſeveral kinds which either could not be raiſed at all in Ruſſia or only in inſufficient quantities.

Wild apples and pears grow as far as the 49th, but wild plumbs and cherries to the 55th degree of north latitude. In the leſs favoured regions, where theſe fruits do not come forward in the open air, art is ſometimes, in an admirable manner, employed to the aſſiſtance of nature: but this induſtry, the child of opulence and luxury, is only exerted in the vicinity of great towns, or at ſome few country-ſeats, and then moſtly by foreigners. Of all the ſpecies of fruit produced by the ruſſian empire, APPLES and PEARS are the moſt abundant, and it is almoſt of them alone that there are ſeveral improved ſorts, and the culture whereof is purſued in the groſs. All the villages on the Volga and the Oka have their orchards, or more properly apple-gardens, and numbers of boors live here without huſbandry, merely by horticulture, in good circumſtances. In proſperous years it is not uncommon for a countryman to take from three to four hundred rubles of a chapman who agrees for the fruit on the trees, and gathers them himſelf; and many villages get ſometimes above ten thouſand rubles for the fruit they have raiſed themſelves. All the kinds of apple growing here are originally from Aſtrakhan, Perſia, and the Kabardey; the euro-

pean

pean ſorts, rennets, pippins, codlins, &c. are ſeen here nowhere. The moſt remarkable of thoſe that thrive in theſe parts is the kireſſkoi apple, which often grows ſo large as to weigh four pounds, having an agreeable acidulous flavour, and keeping a long time*. — In other diſtricts alſo the apple is cultivated with great ſucceſs, as, for example, about Moſco and ſome of the adjacent governments, where they produce particularly a tranſparent ſort, brought originally from China, full of juice, and extremely well-taſted, called nalivui, full-melting, as, in fact, it is ſo full of juice as to be ready to burſt. Their flavour is a pleaſant acid; and, on holding them up to the light, the core is diſtinctly ſeen, and the pips may be counted. In ſeveral of the governments great returns are made with orchard fruits, and the apples in particular form no trifling branch of inland traffic: in the government-towns, Kaluga and Simbirſk, for inſtance, theſe returns amount one year with another to eighteen or twenty thouſand rubles*. At the ſame time, plentifully as theſe kinds of fruit are produced, yet they are not by any means adequate to the demands of the whole empire, and particularly Siberia. The european governments lying to the north, therefore, receive

* Georgi's travels, tom. ii. p. 836.

* Statiſt. ueberſ. der ſtatth. des ruſſ. reichs, xvi. xxv. xxxi.

by the ports on the Baltic conſiderable cargoes of foreign apples and pears, partly freſh and partly dried; whereof at St. Peterſburg alone in the year 1794 were imported to the amount of more than 122,000 rubles. Beſides the propagation and improvement of the preſent kinds, which are capable of being far more diverſified, it would therefore be neceſſary to render more common the practice of drying theſe fruits and the making of paſtry.

CHERRIES, eſpecially of the ſpaniſh ſort, are not only very frequently produced in orchards, but in ſouthern Ruſſia are even whole foreſts of cherry-trees. In ſome diſtricts the culture of this fruit is carried to ſuch an extent, that it conſtitutes the main branch of ſubſiſtence to the inhabitants, as in ſeveral circles of the government of Vladimir; and yet ſo little is it here thought of improving it, that there are nowhere any more than two kinds, and they not much bigger than the ordinary carroons*. The ſteppe-cherries, which grow wild in the governments of Ufa and Caucaſus, are chiefly uſed in making cherry-wine, which is diſtributed throughout the country, and alſo yield an excellent aromatic vinegar. In the confines of the Terek grow cornel-cherries, which, preſerved unripe in vinegar, are equal in flavour with the veroneſe olives †. — PLUMBS are very plen-

* Pallas, travels, tom. i. p. 19—153.

† Falk's beytræg. tom. ii. p. 117.

tiful

tiful in ſeveral parts, particularly in Little-Ruſſia, on the Terek, in Taurida, and about Moſco. In the government of Voſneſenſk they are frequently dried in ovens and tranſported in that manner. — The importation of dried plumbs and cherries amounted in the aforeſaid year at St. Peterſburg to upwards of 38,000 rubles; an expence which might eaſily be ſaved, if the countrymen would accuſtom themſelves to the preparation of baking-fruit.

Neither is Ruſſia entirely deſtitute of the ſuperior kinds of tree-fruit, though the limited circuit in which they flouriſh in open air cannot furniſh enough of them for the demands of the whole empire. APRICOTS and PEACHES ſucceed in moſt parts of Taurida and Caucaſus, and in the ſouthern circles of Kief, Ekatarinoſlaf, Voſneſenſk, and ſome other governments without much tending; but in the middle regions they require greenhouſes, in which, however, even in St. Peterſburg they are raiſed in the greateſt perfection. The cherries of Kitzliar, Aſtrakhan, and Taurida are excellent; but in all other places they are ſmall, and ſeldom come to full maturity; whereas the apricot-trees are not ſo ſenſible, and thrive very well even in ſome parts of Little-Ruſſia. — The QUINCE-TREE grows wild and plentifully in the foreſts about the Terek; they would probably ſucceed too in other ſouthern provinces. — CHESNUT-TREES are only found ſingly in Taurida,

Kief, and Voronetch: as they ſucceed in the latter governments, there is no doubt that they might alſo be raiſed in all the ſouthern. — WALNUT-TREES are ſeen in moſt diſtricts of ſouthern Ruſſia, and generally in great abundance; but the ALMOND-TREE grows only in the provinces that lie moſt to the ſouth. Probably the culture of it might be tried with ſome ſucceſs even more northwards, at leaſt it is here in ſome degree compenſated for by a ſhrub, called by the botaniſts amygdalus nana, and is found in abundance in the open fields of middle Ruſſia and the ſouth of Siberia. This ſhrub would thrive in more northern diſtricts, as it ſucceeds very well, even in St. Peterſburg. Its fruit yields in no reſpect to the bitter almonds, and they can even be deprived of this bitterneſs by ſteeping them for a few days in brandy, whereby the almonds become ſweet and the brandy gets the agreeable taſte of perſico. — FIGS and POMEGRANATE-TREES are ſeen ſingly near Kitzliar and in Taurida; but LEMON and ORANGE-TREES are everywhere raiſed only in hot-houſes, though Pallas aſſures us that they would very well bear the winter in Taurida, with ſome attendance*. — Certain it is, that all theſe cultures might be generally propagated and even tranſplanted into more northern diſtricts; and if it be conſidered that Ruſſia would thus be a gainer of above half a million annually, which at

* Guldenſtædt's akad. reiſe, &c. 90—95.

preſent

preſent goes abroad for theſe articles that are now become neceſſary, no farther remark is requiſite for rendering the importance of this kind of induſtry comprehenſible.

SECTION VI.

Culture of the Vine.

THE ſame obſervation with which we concluded the foregoing ſection holds good to a ſtill greater extent of the CULTURE OF THE VINE, to which the ſouthern regions of the empire offer ſingular advantages, but which have hitherto been ſo exceedingly neglected, that Ruſſia is obliged to obtain its whole ſupply of wine from foreign countries. From Guldenſtædt's ſtatement we learn that about thirty years ago Ruſſia purchaſed wine to the amount of 445,000 rubles, brandy to that of 207,000, and wine-vinegar to the worth of 11,000 rubles; for dried fruits of the vine ſhe paid 27,000 rubles for raiſins, and 7000 rubles for currants. This importation, which has conſiderably increaſed ſince the year 1769*, might at leaſt be diminiſhed by one half if only the com-

* In the year 1794, at a time when by the prohibition of french wine this article of public expence was greatly leſſened, the importation at St. Peterſburg alone amounted to 734,000 rubles in wine, 7000 rubles in brandy, in vinegar 43,000, in raiſins 60,000, and in currants 15,000 rubles. The ſmaller conſumption of the foreign brandy is therefore much

moner ſort of table-wine, the conſumption of which is the greateſt, were produced in the country, whereby at once both the induſtry and the population of the ſouthern provinces would acquire a very important ſource of encouragement. — The parts in which the culture of the vine is at preſent carried on are the governments of Caucaſus, Taurida, Ekatarinoſlaf, and Voſneſenſk, and the country of the Don-kozaks; in the maloruſſian governments, and ſome other provinces of the ſouthern regions, the vine-ſtock, indeed, here and there ſucceeds, but the produce of it is generally ſo ſmall as not to merit particular notice.

In the government of CAUCASUS, and particularly the territory about Aſtrakhan and on the Terek are diſtricts where the vine is cultivated with ſome ſucceſs on the large ſcale. The culture of the vine at Aſtrakhan took its riſe in the laſt century, when an Auſtrian monk became the Triptolemus of that country*. This man, who

much overbalanced by the larger demand for the other articles. In the year 1768 the whole amounts of the products of the vine imported were 697,000 rubles; in the year 1794 at the port of St. Peterſburg alone were entered to the value of 859,000 rubles of them.

* Olearius, travels into Perſia. Weber's verandertes Ruſſland, tom. i. p. 156. Gmelin's travels, tom. ii. p. 115. Beſchreibung und geſchichte des weinbaus in den ſudlichen gegenden Ruſslands, von Rading, œkonomie direktor in Aſtrakhan; in der auſwahl œkon. abhandl. tom. iii. p. 291.

was

was brought to Aſtrakhan as a priſoner, and here adopted the greek religion, planted in the vicinity of his monaſtery perſian vine-ſtems, which ſucceeded ſo well, that in the year 1613 he received orders from tzar Mikhaila Feodorovitch to lay out a regular vineyard in that city. Several of the inhabitants ſoon followed his example, and in 1640 they took into their ſervice a german vine-dreſſer named Bothmann. Peter the great, to whom no object of general utility was indifferent, cauſed ſeveral ſorts of vine-ſtocks of the moſt celebrated european vines, and a vine-dreſſer belonging to each of them to be written for, who was to treat and to tend the vine-ſtocks according to the practice in his own country. Almoſt all of them throve, and in a ſhort time Aſtrakhan was in poſſeſſion of a variety of fine grapes, of which at preſent are reckoned no fewer than twenty different ſorts. Nothing is more to be lamented, than that theſe vine-dreſſers were not ſo expert as wine coopers, and had not the art of making good wine. The vineyards were now in the beſt condition poſſible, but the wine turned out badly, and from all the various kinds of grapes only one ſpecies of wine was produced, namely, what is called the tſchichir, which, on account of its tart and unpleaſant taſte, is ſtill, notwithſtanding the improvements it afterwards had, in very bad reputation. The culture of the vine now by inſenſible degrees declined ſo much, that

that even the vineyards belonging to the crown were ſuffered to go almoſt entirely to ruin, till under the reign of the empreſs Elizabeth, a Servian, of the name of Parobitch, was appointed director of them. This ingenious and active perſon not only reſtored the imperial vineyards, but raiſed the culture of the vine in general into ſuch repute, that it began to be an important and gainful buſineſs. The wine was now indeed drinkable; but the want of good wine-coopers ſtill continuing, it did not attain to its due perfection; and the honeſt Parobitch dying after having faithfully and uſefully diſcharged his office for fifteen years, the crown vineyards fell again into a ſtate of decay. On the erection of the municipalities in the year 1786 theſe vineyards were relinquiſhed by grant to the corporation, on condition that the imperial court, as heretofore, ſhould be ſupplied with fruit from them; and the boors belonging to the vineyards obtained permiſſion to inſcribe themſelves as citizens or to chooſe ſome other ſtation, and follow any other trade. As all the work muſt now be done by hired people, and the town finding it occaſioned more loſs than profit, leave was granted them on their petition to ſell all the crown-vineyards; and the culture of the vine, which from its origin, for a ſpace of a hundred and ſeventy-five years, had been chiefly a concern of the government, is become

become ſince that period a mere object of private induſtry.

For all this however it is not the leſs proſecuted with conſiderable benefit, though not ſo much in the view of obtaining wine, as for raiſing good grapes, which are hence diſtributed over all Ruſſia and even beyond. A pood of theſe grapes coſting on the ſpot between two and three rubles, and this profit being much eaſier and ſurer than that on the making of wine, it is not to be wondered at that the owners of vine-yards conſider the wine-preſs as a mere collateral concern, and only convert into wine ſuch cluſters as remain upon their hands unſold, that they may not be entirely loſt. The ſmall quantity of it made at Aſtrakhan finds a certain ſale, as muſt or ſtum, among the common people; and to theſe ſeveral cauſes it is to be aſcribed that good old wine is ſo ſeldom to be had here by wholeſale. The culture of the vine-ſtock is therefore here rather a ſort of gardening than the proper buſineſs of the vintager, and accordingly the principal concern is to raiſe thick-ſkinned grapes, which are fitter for tranſport, but by no means juicy enough for yielding much wine. For the ſame reaſon too they force the grapes by copious irrigations to a prejudicial magnitude *, and inſtead

* "As in Aſtrakhan they have the bad habit of watering "the vineyards to an immoderate degree ſo as to make "almoſt bogs of the vine-beds, it is no wonder that the juice from

inſtead of ſtripping off the leaves, as is generally done to expoſe them more to the ſun, they are carefully ſhaded by the aſtrakhan vine-gardeners, that they ſhould not get ſpots from the ſun-beams. Both give the grapes a beautiful look, but it would be impoſſible to act more abſurdly, if they wanted to get good wine.

On the Terek near Kitzliar, and on the Don in the territory of the Kozaks likewiſe a great many vines are reared; in the firſt-mentioned diſtrict they frequently even grow WILD. Though the ſoil is here far more adapted to the culture of the vine than about Aſtrakhán, the wine notwithſtanding ſucceeds no better, becauſe the careleſs and inexperienced inhabitants have no notion of improving it. The hiſtory of this culture is unknown; probably it might have its origin from the wild vines growing in ſeveral parts of the caucaſean diſtricts, as both the wild and the reared vine-ſtock alike bear purple cluſters. Not only the

---

" from theſe watery grapes turns out poor of viſcous and " ſaccharine parts, and can afford no good and ſpirituous " fermentation. It ſeems to me that the bad quality of the " aſtrakhan wine is more owing to the watering than to the " ſaltneſs of the ſoil, and then perhaps in ſome meaſure to the " careleſs manner of preſſing. — If it be intended to have " regular vineyards, and to obtain in the country a good " wine that will keep, that continual pouring of water on " the roots of the vine-ſtocks muſt be avoided as a material " injury." Pallas, travel., tom. iii. p. 627.

ſoil,

ſoil, which is here little ſaline, but alſo the weather is more favourable to the culture of the vine than at Aſtrakhan, as ſhowers of rain are more frequent, and conſequently the expence there occaſioned by the watering is avoided. Beſides, the inhabitants of the parts about the Terek and the Don convert almoſt all their grapes into wine, of courſe the obtaining of it is a great object with them; it is therefore indeed to be lamented, that it ſhould turn out ſtill worſe if poſſible than the common aſtrakhan wine. The example of ſeveral proprietors of theſe vineyards ſufficiently proves, that even without art or direction, but with ſome care, a good potable wine may be got from the vines ordinarily growing there *.

The manner in which the culture of the vine is proſecuted both in Aſtrakhan and at Kitzliar †,

* An example of this nature highly worthy of imitation has been given by lieutenant-general von Beketof in Aſtrakhan. As ſoon as he had laid out his vineyard and put it in order, he wrote for a wine-cooper from Germany, and cauſed ſeveral pupils to be taught by this man. By the improved proceſs now adopted, the wine was ſo much the better that the owner ſome time ago had from twelve to fifteen thouſand caſks of wine lying in his cellar, the oldeſt of which had been there ſeventeen years, and by ſeveral good judges in Moſco was taken to be mozelle or claret. — By the ſame method another land-owner on the Terek obtained form the common grapes there a well-flavoured wine. See Aufwahl œkon. abhandl. tom. iii. p. 295. 302.

† Rading, in der aufwahl œkon. abh. tom. iii. p. 300. Falk's beytræge, tom. ii. p. 136.

approaches,

approaches, as we obſerved before, to gardening. The vine-ſtocks are not reared on vine-mounts, but in gardens cut into trenches, with ſloping banks on which the ſtems are planted in rows. In Kitzliar every ſtem is faſtened to a ſtake, but in Aſtrakhan to lattices and eſpaliers. After the vintage they are lopped quite to the eyes, then in October bowed down to the ground and covered with hay and earth. In ſpring they are freed from their winter covering and faſtened to their ſtakes or eſpaliers, where they are ſcreened as much as poſſible from the ſun-beams, and watered without intermiſſion for accelerating their maturity. The weeds are carefully hoed from about them, and for guarding the ripe cluſters from the injuries of rapacious birds, boys are hired to ſtand on high ſcaffolds, where they keep up an inceſſant ſhouting, and continually pelt them with ſtones.

The vintage laſts from the end of Auguſt to the end of September, yielding generally four ſorts of grapes, namely large white and purple, ſmall oval and ſmall round purple grapes without ſtones. Moſt of the large grapes are packed up and ſent in jars over the whole empire, for which purpoſe in September carriers come from all parts to Aſtrakhan. The Bukharians kindle a little ſtraw under the cluſters after hanging them up, ſmoking them as it were, by which the ſkin gets tougher and the fruit keeps better.

The grapes which cannot be ſold freſh are ſqueezed; for which purpoſe they are collected into

into canvas bags, then laid in troughs and trodden with the feet, after which they are brought under the wooden preſs. The juice ſqueezed out by treading, as it is drawn from the ripeſt cluſters, yields the beſt wine. The muſt is poured into veſſels of forty or fifty vedros, in which it falls into fermentation, and after three weeks it is marketable wine. The huſks are thrown away in a very unthrifty manner. — The white wine is almoſt the colour of water, and the red is but ſlightly tinctured with that hue. Both, when ſomewhat properly managed, are light ſweet table-wines, but in leſs than two years loſe all their pleaſantneſs and even turn ſour; they are then uſed for diſtilling brandy or making vinegar. The aſtrakhan grapes are inferior to thoſe of Kitzliar by reaſon of the ſaline ſoil and the artificial irrigation; but the aſtrakhan wine, with careful management proves the better of the two, and accordingly bears a higher price. To preſerve an uniformity in the price of wine, which is aſcertained by the vintage, no one may ſell his wine till that price is fixed. Formerly in Kitzliar a runlet (of 16 pound) of new wine ſold for 28 to 35 kopeeks; whereas the aſtrakhan on the ſpot coſt a ruble and a half. At preſent the price is much raiſed; and the latter, particularly in Ruſſia and Siberia, is ſold not much cheaper than other foreign wines. — The wine which the Tavlintzes or mountain Tartars bring to Kitzliar, excels that of the Terek both in flavour and body, therefore

it keeps much better and is drunk by people of condition. The caucaſean Tartars, though mohammedans, not only drink wine publicly, but make it ſtill more inebriating by hanging in it, while the fermentation is going on, the unripe heads of poppies.

The large purple grapes and the two ſmaller ſorts are, on the Terek as well as at Aſtrakhan, converted into raiſins; of the ripeſt and ſweeteſt a ſyrup is prepared, which is of an agreeable taſte and uſed for various purpoſes of houſekeeping; and in the aforeſaid diſtricts frequently ſupplies the place of ſugar.

In TAURIDA the vine-ſtock has been long domeſticated and perhaps may be even a reliet of grecian culture. There are ſeveral excellent ſorts of it, and in the diſtrict of Feodoſia and Aſinei it yields a wine very pleaſant to the palate, not much unlike to Champagne. Among the beſt known kinds of grape there are ſome that to the view may be compared with the beſt of thoſe produced abroad, for inſtance, with the ſapillier, the riſsling from the Rheingau, the muſcadel, the chardenet from Champagne, the hungarian white lagler, the chaſſelas rouge, &c. All theſe ſpecies of vines, which grow in the ſouthern half of the peninſula, (partly even wild,) would produce moſt excellent red and white wine, if more attention were paid to the culture of them, and particularly to the management of the muſt. At preſent the vine-ſtocks have

have but little nurture and care beſtowed upon them; they are likewiſe ſeldom planted on terraces, and are generally left to nature *.

The vine is cultivated to a certain degree in the government of EKATARINOSLAF, and it compriſes diſtricts where this culture might be introduced with good hopes of ſucceſs. It is chiefly purſued on the rivers Bogue, Ingul, Inguletz, and on the Dniepr, likewiſe here and there by the Kozaks. The grapes are not bad, but from the wretched management, which is carried ſo far that they even pour water to the muſt, the wine will not keep, and therefore cannot be tranſported. — Alſo in the government of VOSNESENSK the vine-ſtock ſucceeds admirably; but, as the people here underſtand nothing of the art of making wine, it is but little cultivated. In thoſe circles which formerly conſtituted the ſteppe of Otchakof there are ſeven ſorts of vines, and this culture has been here long in vogue; but it is uſual only to dry the grapes, in which manner they yield a petty branch of trade †. — Beſides theſe provinces, where the culture of the vine is in ſome meaſure carried on in the groſs, there are particular diſtricts in the bordering governments, where the vine-ſtock, with a very cloſe attention, might thrive; and it is even actually found here and there in Little-Ruſſia and

* Deſcription phyſ. de la Tauride, par Hablial. Pallas, tableau de la Tauride.

† Statiſt. ueberſicht der ſtatth. des ruſſ. reichs, xl. 97.

on the Volga. Near Kief it is however only reared as an object of gardening: the vines bear both the white and the purple grape; but the latter ſeldom come to maturity, and even when they do ripen, they are ſtill very ſour *. The culture of the vine ſeems to ſucceed better on the Volga in the government of Saratof. Here Pallas found in the colony of Galka a german vine-dreſſer who had planted upwards of three thouſand bearing vines, from which he gathered in one year twenty pood weight of cluſters. This man never watered his vines at all, though they ſtood on pretty dry ſoil, and though his grapes were not equal to thoſe of Aſtrakhan either in ſize, beauty, or taſte, yet they afforded a much better muſt, which, when it was ſuffered to ſtand, became a ruby-red wine very like the french, and in compariſon with that of Aſtrakhan, might paſs for nectar *. It would be very intereſting to learn whether the example of this german Noah has found any imitators among the coloniſts of thoſe parts, or whether ſo promiſing a commencement has been attended with no farther effects.

From what has been ſaid it is manifeſt that the ruſſian empire is in reality not deficient in diſtricts where the culture of the vine might be carried on with the greateſt ſucceſs, though from the preſent ſtate of this culture it ſcarcely deſerves that ap-

* Guldenſtædt's travels, tom. ii. p. 346.

† Pallas, travels, tom. iii. p. 627.

pellation.

pellation. The neglect of ſo important a branch of induſtry, amidſt ſo many advantages which Nature freely offers to that end, is ſo ſtriking a breach in the national employment, as to merit a very ſerious contemplation. A few years ſince, a member of the œconomical ſociety brought this matter forward, and offered a premium of a hundred ducats for the beſt anſwer to the queſtion: How the culture of the vine-ſtock and of the olive-tree could be beſt encouraged in the ruſſian empire? — Since that time, propoſals and ſchemes have indeed been delivered in to that purpoſe, but as yet none of them have been brought to effect. The paper that obtained the prize and was publiſhed by the ſociety *, contains, however, ſuch ſound and inſtructive arguments, and propoſes methods ſo eaſily practicable and ſafe, that we ſhall give the reader a ſenſible gratification, and perhaps do the cauſe itſelf ſome ſervice, by extracting the moſt material reſults of that paper, and thus doing what we can to bring it into greater circulation.

As in making plans for introducing and perfectionating the culture of the vine, it is not intended ſo much to raiſe many ſorts of wine, as that the wine produced ſhould be good, it is neceſſary to fix the limits beyond which no great ſucceſs can reaſonably be expected from that ſpe-

* Friebe, von der kultur des weinſtocks in ruſſiſchen provinzen. In der auſwahl œkon. abhandl. tom. iii. p. 215.

cies of induſtry. We have indeed ſeen that the vine-ſtock thrives near Kief and in the territory of Saratof in the open air, though the firſt-mentioned place lies in 50° 27′ and the latter in 51° 45′ of north latitude; but from all the experiments that have been made, the culture of the vine would never ſucceed here in the groſs, or would yield only a bad product, though Germany in the very ſame latitude produces the exquiſite rheniſh or hock, the mozelle wine and the ſtein-wine. This difference is owing to the loco-poſition of the countries and the direction of the mountains. The diſtricts of the Rhine are protected to the north by a chain of mountains, and to the north-eaſt by the foreſt of Speſshart; Franconia has the foreſts of Bohemia and Thuringia, whereby Bamberg and Wurtzberg particularly acquire a temperature nearly approaching to that of upper Italy, and even the county of Semlin in Hungary, where the tokay grows, is ſheltered from every piercing wind by the carpathian hills. Whereas all the ſouthern part of Ruſſia has no ridge of mountains to defend it againſt the eaſt, north, and north-weſt winds, which accounts for the inequality of the temperature in thoſe diſtricts and the rapid viciſſitudes of heat and cold, which are injurious to all tender vegetables and plants, and eſpecially to the vine. If therefore the culture of it be practicable in other countries lying to the north, by a good local ſituation, the Ruſſians ſhould ſtrive to obtain

tain for their country the ſame advantage by a more ſouthern latitude; and therefore it is by no means adviſable to extend the proper culture of the vine beyond the EIGHT-AND-FORTIETH degree, though it would be equally uſeful to manage the vine-ſtock in the contiguous northern diſtricts as high as the one-and-fiftieth, as an object of gardening, in order to gain grapes and other ſerviceable products for conſumption.

The whole region of the ruſſian empire from the ſouthernmoſt borders to the 48th degree of latitude conſtitutes indeed a ſuperficies of more than 12,000 ſquare geographical miles; but of this large tract perhaps ſcarcely one fourth part is proper for the culture of the vine. The vine-ſtock requires not only a warm, mild, even tempered atmoſphere, but alſo a ſuitable ſoil; beſides, it muſt be planted on ſloping plains, and to this end mountains or at leaſt hills are neceſſary to corroborate the reflection of the ſun-beams and to render the heat more efficient. As for the exact ſtatement of ſuch diſtricts accurate deſcriptions and ſpecial maps are requiſite, it will be ſufficient in general to obſerve, that the proximity of rivers offers the moſt advantage to this end, as in the vicinity of every river there is always a declivity. Ruſſia has in the aforeſaid latitude not only rivers in great numbers, but neither is it wanting in particular diſtricts which have moreover the choiceſt ſituations for the culture of the vine; not one of them

them however is ſo remarkably endowed by nature for this purpoſe, as the ſouthern half of the tauridan peninſula, which by a ſemicircular chain of mountains is ſheltered from every inclement wind, and in which not only the vine, but the nobleſt productions of ſouthern Europe and the leſſer Aſia flouriſh and abound *. This diſtrict, which compriſes a circuit of more than twelve hundred ſquare geographical miles, and is already formed by nature into a beautiful garden, might by diligence and induſtry become a ruſſian Champagne. But alſo in other diſtricts of the country that are ſuſceptible of the culture of the vine it would richly repay the labourer, and, if only the ſixth part of the aforementioned ſurface were properly cultivated and peopled, it would produce wine enough to anſwer at leaſt a half of the demands, which Ruſſia at preſent obtains at the expence of the balance of her trade from foreign countries.

Hitherto the vine has been cultivated in theſe parts as a buſineſs of ſmall concern, and the proceſs by which it is managed is ſo bad, that the wine here produced ſcarcely deſerves a place among the products of Ruſſia. As ſome of the nations dwelling here have purſued this buſineſs for ages paſt, and yet in the treatment and nurture of the vine-ſtock have made no farther progreſs, it is

* See the deſcription of this charming region by Pallas, in our firſt volume, p. 32.

plain

plain that the only poſſible means for improving this culture is by ſending foreign vine-dreſſers to thoſe diſtricts for rendering their better method more common by ſenſible manuduction and practical directions. An undertaking of this nature, however, cannot be the work of private individuals, but requires the powerful co-operation of political œconomy, and might perhaps be moſt beneficially put into execution by a ſociety, acting under the ſanction and patronage of government.

It would be neceſſary not only to engage vine-dreſſers, but alſo coopers to make the caſks and veſſels, and who are ſkilled in the art of treating wine and its fermentation in the cellar. It would be moſt adviſeable to procure theſe people from Germany and Hungary, where they are more expert and induſtrious. At firſt foreign vines ſhould only be planted in Taurida; in the other wine-diſtricts it might ſuffice to improve the preſent ſorts, and afterwards increaſe them from thoſe planted in Taurida. Fourteen vine-dreſſers and ſix wine-coopers would be able to effect this in eight or ten years; and the expences attending the whole undertaking, might, upon calculation, be defrayed with ſixty thouſand rubles. Perhaps this ſum might moſt commodiouſly be raiſed by a company of private perſons, eſpecially if it were divided into ſhares. In the third year the wine obtained, and particularly with the help of the vinegar that would be made, would reimburſe a

part

part of this capital; and it is even probable that in eight years the whole capital would be replaced, for in the ſixth year the new-laid vine-mounts would yield a complete vintage.

If ſuch a company were ſet up under the ſanction of the government, it would be requiſite for the crown to make grants to them of the vine-yards already laid out and all other places fit for that purpoſe. Such private owners as are not in a condition to improve their vine-mounts themſelves, ſhould be obliged to relinquiſh them to the company in conſideration of a part of the profit for a given time, on the expiration whereof it ſhould be reſtored in an improved ſtate to the proprietors: and for a ſpace of twenty years the company alone muſt have the right of ingroſſing all the wine, even that produced by private perſons, in order that it may be prepared for uſe by a better treatment. — As ſoon as the company itſelf is able to deliver wine, it would be neceſſary, at leaſt to prohibit the importation of moldavian wine into the Ukraine; a monopoly, however, that need not continue longer than about twenty years. When that period was elapſed the holders of ſhares would loſe the common uſe of the capital they advanced, which hitherto muſt have brought them an uſurious intereſt.

That all the attempts which have as yet been made for improving the culture of the wine have failed, has been partly owing to this, that regard

has only been paid to the preſſes and the treatment of the wine, without previouſly improving the culture of the vine itſelf. The exertions of individual proprietors have in part been attended with greater ſucceſs; but, as an alteration of ſuch importance cannot become general by ſolitary undertakings, hardly any other means would be ſo fitted to the attainment of this end, as that now propoſed.

SECTION VII.

Foreſt-culture.

FOREST-CULTURE, in all populous countries on the continent, forms a branch of producing employment, having not only in view the preſervation but the propagation and increaſe of the uſeful kinds of wood. In the extenſive plains, and on the foreſted mountains of Ruſſia, where the ſurplus of foreſts is a hindrance to culture, ſuch extreme precautions would appear to be uſeleſs; but, if nature has ſo liberally and richly provided for the ſupply of this neceſſary in the northern region, yet the demands for it are nowhere greater and more urgent than here, and the preſervation of this ſource of ſubſiſtence is the more an object of public concern, as a country of ſuch vaſt extent is not everywhere poſſeſſed of the like products, and muſt with the ſurplus of one province

ſupply

ſupply the deficiencies of another. With all her wealth in foreſts, Ruſſia, however, contains diſtricts that are totally deſtitute of timber and fuel; and, even in the governments, where theſe neceſſaries of life were lately in abundance, the increaſing population and induſtry have made the decline of them very ſenſibly felt. The immenſe conſumption of wood in a territory where it is neceſſary for eight or ten months of the year to provide againſt the cold, and where almoſt all the habitations in town and country are conſtructed of timber, riſes in the ſame proportion in which the number of people increaſe. The uſeful practice of malting the corn, the grubbing up of foreſts for making fields and meadows, the producing and the working of metals at the numerous mines, the ſupport of a double navy, the many work-ſhops of artificers, the various requiſites for houſekeeping, diminiſh the ſtores of foreſts, as induſtry, luxury, and the accommodations of life are augmented. Add to theſe the great exportation of foreſt products, the amount whereof is ever increaſing with the increaſing demands of other countries, and the extenſion of commerce: and all theſe cauſes together render a deficiency in wood in ſome diſtricts already perceptible, the farther effects of which are of an alarming nature.

The governments of Archangel, Olonetz, Tobolſk, and Irkutſk, have a real ſuperfluity of foreſts;

reſts; in theſe enormouſly large provinces the eradication of them is in ſome degree as neceſſary as the preſervation of them in others. The governments of Perme, Kazan, Smolenſk, Mohilef, Minſk, Tſchernigof, Voronetſh, Uſa, Tula, Simbirſk, Orel, Kaluga, &c. are richly furniſhed with them, not only ſupplying moſt of the forges and metal founderies from their foreſts, but alſo ſending excellent ſhip-timber to the yards. Moſt of the other provinces poſſeſs a ſufficient ſtore for their own conſumption; but a few of the ſouthern governments, as Kief, Kharkof, Kurſk, Ekatarinoſlaf, and Taurida, are in general but ſcantily provided.

Of the ſeveral claſſes of trees, thoſe that have narrow pointed leaves * are chiefly indigenous in northern Ruſſia, where they form foreſts of prodigious extent, among which the FIR †, the PINE ‡, and the BLACK PINE § are the moſt common and moſt widely diffuſed. The latter are every-where in the greateſt plenty, and in general afford the moſt wood as timber for fuel and for burning into charcoal, as the pine yields the moſt pitch. The SIBERIAN CEDAR || is found particularly in the uralian mountains, but this fine, ſtrong, and aſpiring tree is almoſt conſtantly uſed only as the

* Called by the Germans *nadelhœlzer*, or needle-timber, from their leaves growing in that ſhape.

† Pinus picea. LINN. ‡ Pinus abies.

§ Pinus ſylveſtris. || Pinus cembra.

pine;

pine; and the Siberiaks, like the inhabitants of Louiſiana, frequently make no conſcience of cutting down a whole trunk to enable them the more eaſily to pluck off the nuts or cones, which, beſides their conſumption as a fruit, yield an excellent oil. The LARCH-TREE * grows in the north of european Ruſſia, and alſo on moſt of the ſiberian mountains. On the ſea-coaſts this uſeful timber, on account of its reſinous quality, is advantageouſly employed in the conſtruction of ſhips, as in many other diſtricts for piles and erections in the water, and at the nertſchinſkian mines it almoſt alone ſupplies all the charcoal. In the mountains of Olonetz and Ural turpentine is drawn from it, and its fungus is collected, which is alſo exported. The gum yielded by it might be of uſe to the apothekes †.

Among the umbrageous trees the BIRCH is the commoneſt, which by an œconomical uſe of it is

* Pinus larix.

† Every larch-tree, on wounding its outward bark, yields a clear, yellowiſh, viſcous reſin, equal in all its properties to the beſt venetian turpentine, and on the ſame trees is produced a gum ſoluble in water, brown, and otherwiſe very ſimilar to the gum arabic or gum ſenega; conſequently, this tree contains in its ſap-veins two ſorts of matter entirely different. The ſiberian country-people collect no more of the gum than they want for a few domeſtic remedies, and not more of the purgative fungus of the larch, agaricus officinarum, found in great quantities in the foreſts. Pallas, travels, tom. i. p. 451. tom. ii. p. 127. 213.

ſer-

ſerviceable in various ways. The bark of this tree is employed in tanning and in preparing tar, likewiſe a multitude of cylindrical veſſels are made of it, for holding kaviar, butter, fruits, and other articles. With the leaves a yellow dye is made; the ſap affords a well-taſted liquor called birch-wine, and the wood is conſumed as fuel in the houſes as well as at the mines and manufactories. The alder, a degenerate ſpecies of birch, grows generally in wet and ſwampy diſtricts. Next to the birch, the LINDEN is in the greateſt abundance, from which, likewiſe, Ruſſia derives more benefit than is done anywhere elſe. The thick bark is uſually made into baſkets for carriages and ſledges, into boxes and trunks, into coverings for cottages, &c. The inner-bark is the material of a very extenſive manufacture of mats both for home and for foreign conſumption. Of the rind of the young ſhoots many millions of mat-ſhoes are platted for the boors; the wood is ſawn into boards wrought up into canoes, burnt into pot-aſhes, and from the bloſſoms of the linden the bees ſuck an excellent nouriſhment. The OAK, that venerable and uſeful tree, is indigenous only in the european part; it is moſt frequently found in the governments of Kazan and Voronetch, where it is chiefly employed in ſhip-building, but alſo in Little and White Ruſſia it forms conſiderable foreſts. — The ASH and the WILLOW grow almoſt everywhere; but BEECH, ELMS, the MAPLE, and

and the POPLAR, are chiefly the growth of the ſouthern regions *.

This rich ſtore of foreſt-trees, of which we have named only ſome of the moſt common and uſeful kinds, yield not only an extraordinary number of products for home conſumption, but alſo ſeveral very conſiderable articles of export. In the year 1793 the value of the latter in ſpecie amounted to upwards of two millions and a half of rubles, when Ruſſia ſhipped off to the value of 1,744,000 rubles in maſts, balks, and deals; 394,000 in pot-aſhes and Barilla; 249,000 rubles in mats; and 150,000 rubles in pitch, tar, and reſin. The preſervation of ſo important a ſource of national wealth is therefore in a twofold regard a very material object of public proſperity; of the little concern, however, that is paid to the culture of the foreſts, the following account may bear teſtimony:

The prodigious conſumption of wood rendered neceſſary by the climate, the habits of life, and the occupations of the inhabitants, is in Ruſſia greatly increaſed by a WASTE almoſt incredible. Almoſt all the dwelling-houſes and buildings in the towns and in the open country are conſtructed of entire balks; and this cuſtom is continued though many towns have an excellent opportu-

* Herrmann's ſtatiſt. ſchild. p. 217—227. Falk's beytræge, tom. ii. p. 93—282. Statiſt. ueberſicht der ſtatthalt. des ruſſ. reichs.

nity

nity for making bricks, and notwithſtanding the numberleſs depredations committed every year by fire all over the empire. In the ſame manner moſt of the high-roads are laid, almoſt always conſiſting of balks lying cloſe together and covered with ſand, the repair of which alone requires the timber of a whole foreſt. Bridges, fences, incloſures and the like are here almoſt univerſally made of wood; live hedges are ſeen but in extremely few places, where the want of wood obliges the countryman to plant them. By an old cuſtom, which ſtill prevails in ſome provinces, the trunks of trees are not ſawn into planks, but riven in two by the aſſiſtance of a number of wedges; and, inſtead of the plane, ſmoothed with the ax: whereby much uſeful wood is loſt in chips, which are ſeldom thought worth picking up. The national practice of the warm baths, likewiſe, devours a monſtrous quantity of wood; and, as no frugality is obſerved in any kind of firing, or in any thing elſe: ſo likewiſe in this reſpect the conſumption is uncommonly greater than is neceſſary to the purpoſe. Many diſtricts are in poſſeſſion of turf-moors as well as kennel coal, but the uſe of this fuel is as yet ſo confined that it deſerves no particular notice. Inſtead of candles or lamps, the country-people, and even the inhabitants of ſmall towns, uſe luchinki, or thin ſplit laths of dry birch; which, beſides the needleſs waſte of wood, with

the leaſt neglect are apt to ſet the houſe on fire, and too often cauſe conflagrations that reduce whole towns and villages to aſhes. The uſe of the mat-ſhoes deprives moſt provinces of an incredible quantity of the beſt and ſtraighteſt young ſaplings of the linden, which by this extremely injurious practice are diminiſhed twice as much as they could grow by the laws of nature. The damage done by the rhœdungs has been deſcribed before; but, beſides the irreparable injury thus committed on a certain tract of foreſt, it not unfrequently happens, that in this manner a whole foreſt is ſet on fire, which in a few days lays waſte many acres of excellent trees; and it is often ſeen, that places thus burnt up do not begin to ſhew a freſh increaſe of wood in twenty years. If we add to theſe the corn-diſtilleries which multiply immoderately in moſt of the provinces, nothing is more eaſy to be accounted for than the ſcarcity of wood which ſo many provinces already feel, notwithſtanding the immenſe ſtore of foreſts, and which in particular diſtricts is ſo great that timber and firewood cannot now be bought under three times the price they were ſold at a few years ago; nay, that even ſeveral of the ſiberian mine-works are obliged to ſtand ſtill or are entirely abandoned *.

* That ſeveral of the ſiberian mine-works are brought to a ſtand for want of wood, and in ſome inſtances are obliged to be entirely given up, is confirmed by Herrmann in his ſtatiſtical

Not to lengthen unneceſſarily the liſt of examples here adduced of the prevailing extravagance in the article of wood, it will be more beneficial to ſubjoin a few illuſtrations by which what has been advanced may be rendered more intelligible at leaſt to the engliſh reader.

How ſmall the number of brick buildings muſt be in Ruſſia may be gathered from the ſtatements in the tabular ſurvey of the governments of the ruſſian empire; by which it appears, that all the towns in fifteen of the governments that contain the greateſt number of buildings amount to only 4499 brick, and 107,261 wooden dwelling-houſes. During the reign of the late empreſs, however, the number of the former was greatly increaſed, as that princeſs endeavoured to encourage the conſtruction of them, not only by a variety of wiſe regulations, but even by very conſiderable preſents and money advanced. Till the year 1776 there had been received by the towns of Tver 200,000, Staraya Ruſſa 10,000, Dorpat 20,000, Dorogobuſch 60,000, Kargapol 10,000, Kazan 200,000,

---

ſtatiſtical accounts, p. 313, and by the œconomical ſociety in their ſelection of papers, tom. ii. p. 4, not to mention other evidences of the fact. How neceſſary it is to adopt ſome method of ſparing the foreſts in ſuch diſtricts is apparent from the government of Perme, where in the iron and copper mines alone, a million of baſkets, i. e. 20 million of poods, or 800 million of pounds of charcoal are conſumed every year.

Belozero 2000, Torjok 5000, Serpukof 10,000, Bielgorod 100,000, Aſtrakhan 10,000 rubles for this purpoſe; which ſums were diſtributed among them chiefly on account of the frequent devaſtations by fire, and for the building of brick houſes. — The ſame holds good of the highways which were furniſhed with brick bridges at the imperial expence, and, by an excellent plan, were to have been entirely paved with ſtone.

In order to render more general the ſawing of balks, it was ordered ſome years ago, that all galliots or barks paſſing down the Ladoga-canal to St. Peterſburg, if they were not built of ſawn planks, ſhould pay a certain toll. At preſent there is not a ſingle bark to be ſeen of hewn balks, and the toll, having attained its end, is now aboliſhed. — Formerly every two planks coſt a whole tree, as the trunk was cleft in two and the halves chopped away into clumſy planks.

Concerning the uſe of the luchinki, or the lath ſtuck in the timber wall at one end and lighted at the other, to ſerve the purpoſes of a candle, there is a paſſage in Lepekhin's travels, from which the univerſality and the pernicious effects of it plainly appear: "I can affirm," ſays he, "that on my "whole journey (from St. Peterſburg through "Moſco to Vladimir and Murom) I ſaw not a "ſingle village where any other lights were uſed, "even not excepting the poor inhabitants of "towns. Beſides the ſmoke, ſo unwholeſome and

"ſo

" ſo prejudicial to the eyes, beſides the needleſs
" havoc of the birch-wood, only let us figure to
" ourſelves the cottage of a boor all black and ſooty
" with ſmoke, and covered with thatch, in which
" are flax for ſpinning, and yarn. dry brooms,
" and other combuſtible matters. Then, if we
" conſider how careleſsly the people are ever run-
" ning about with the burning light in their hands,
" and how the glowing parts are continually drop-
" ping off; we ſhall ceaſe from being ſurpriſed
" at the ſight of ſuch a number of boors going
" about to get together a little ſeed-corn by beg-
" ging of their neighbours*."

The apologiſts for the practice of wearing the matted ſhoes, bring as reaſons, 1. the poverty of the boors, 2. the quick growth of the linden, and 3. that the making of them forms no inſignificant occupation for their bye-hours. The firſt is only in part well founded, as the boors are not every-where poor, and as theſe ſhoes in many parts ſtand them in more money than leathern ones would coſt. — The young linden ſticks grow undoubtedly the faſter afterwards, but not in the ſame proportion with which they are cut down. To every pair of ſhoes from two to four young linden ſtems are requiſite. In winter the boor wears his platted ſhoes it may be ten, but in the working ſeaſon ſcarcely more than four days. In the whole year

* Lepekhin's travels, tom. i. p. 36.

therefore he wears out at leaſt fifty pair, to the making whereof, if we take a middle number, 150 young linden-ſtems are demoliſhed. A freſh linden-ſhoot in moiſt places is not fit for peeling to the purpoſe of platting into ſhoes in leſs time than three years; on a firmer ſoil, it takes longer. Accordingly the linden-wood is conſtantly diminiſhing faſter than it grows. — The benefit ariſing to the boors from the making of theſe mat-ſhoes cannot be conſiderable, as they are very cheap in parts where there is linden enough; if the countryman would employ the time he ſpends in this in ſome other trade in wood, while he was benefiting the country he would be alſo increaſing his private gains*.

Of the extraordinary riſe in the price of wood, the following ſtatements may ſerve as an example. A fathom of birch-wood for fuel, each billet an arſhine in length was worth in the year 1770 at St. Peterſburg 1 ruble 10 kopeeks, and in the year 1790 it could not be had under 2 rubles 60 kopeeks. A hundred fir balks of a certain length and thickneſs at the ſame place in the year 1740, coſt 12 to 16 rubles. In the year 1790, 100 to 120 rubles. A hundred deals in 1740, ſold for 7 rubles, in 1790, 15 to 20 rubles, &c.

In ſome diſtricts of the empire that are rather poor in wood, for inſtance in the Ukraine, this de-

* Lepekhin's travels, tom. i. p. 39.

ſolation

ſolation of the foreſts, however, is not by far ſo flagrant. Here for a long time the timber has been ſawn; poor people build their houſes of wattles, ſet up double and ſtrengthened by ſtakes, the interſtice being filled up with rubbiſh of pounded ſtones and clay; even the cornices and window borders in the better houſes are of plaſter. Sheds, hovels, cottages, fences are univerſally made of wattles, and in the ſteppes of reeds and ruſhes. Excepting towns and people of quality the Ukrainers have not yet adopted the practice of warm bathing. Inſtead of luchinki for lights in the houſe, the common people uſe tallow and linſeed oil, which they burn in pans; or they make tapers of herbs and ruſhes, which burn very bright and without ſmoke. For warmth and cooking beſide wood they uſe ruſhes and ſtraw. Nobody wears mat-ſhoes; the old lindens are made into bowls and other veſſels for houſehold uſes and hollowed out into bee-hives. Almoſt all the ukrainian countrymen have groves of trees about their dwellings, and their yards and kitchen-gardens are ſurrounded with trees. — But the diſtilleries are the principal deſtroyers of the common foreſts here*.

As there are no general foreſt-laws or regulations in the ruſſian empire, and the control over the preſervation of the foreſts chiefly depends on the

* Beſchreibung der ſtatthalterſchaft Kharkof, im Journ. von Ruſsl. tom. ii. p. 94.

ſagacity and inclination of the officers and freeholders, the appropriation of them is ſubject but to few limitations. The government intermeddles not at all with the management of PRIVATE FORESTS, as every nobleman has the entire lordſhip and the free arbitrary enjoyment of the products of his ground; on extremely few eſtates therefore is there any kind of foreſt-police, ſince the very firſt principles of foreſt-culture, as the allotment into falls, the replanting and ſowing are utterly unknown even by name to the generality of land-owners. Their care at moſt extends to an adjacent park or piece of pleaſure-ground, which ſerves as an ornament to the manor-houſe or is favourable to hunting. The boor is licenſed almoſt everywhere to take from the foreſt what wood he wants, when and how he pleaſes, and he uſually employs this licence as ſuits his own temporary convenience and advantage, but in a manner very deſtructive to the whole. The foreſt is often the reſource to which he applies for raiſing the money he has to pay his lord as obrok; and the latter never once dreams that he is purchaſing this trifling advantage at the expence of a ten times greater damage to his woods. As it is ſeldom refuſed to the boor to chooſe out a 'rhœdungs-place wherever he thinks proper; it likewiſe follows, that the owner perhaps pays for the better harveſt of his vaſſal with the moſt valuable of his timber. Inſtead of uſing the branches broken off or the trunks thrown

thrown down by the wind, the aftermath, the roots, the ſtumps, and other relicts of the felled timber, the boor culls out exactly the fineſt trees, not merely for the ſake of getting pitch and tar, or for burning into potaſhes and charcoal, but for his ordinary firing. — Prejudicial as this careleſſneſs is to the foreſts of private proprietors, it would be extremely difficult, in the preſent ſtate of the boors, to introduce a general reform in regard to the foreſts. Being unable, as vaſſals, to poſſeſs any immoveable property, they muſt be allowed for their ſupport the free uſe of the foreſts, which by immemorial cuſtom they treat as they think fit. Certainly however ſome ſtop might be put to theſe exceſſes; for example, by obliging the boor to fetch his neceſſary wood only from the falls that are from time to time marked out; but then it could not be aſcertained how much ſhould be allotted to each boor at the annual fall, as his neceſſities are not always alike, and can ſeldom or never be accurately calculated. Even in caſe he ſhould cut down more than he has occaſion for, and only that he may ſell the wood, this need not everywhere be denied him, as then ſome towns would be left entirely without proviſion, and the boors themſelves would be deprived of a reſource in caſe of neceſſity, which in times of general dearth or in other diſtreſſes, would protect them from total deſtitution. In the diſtricts where the countryman chiefly lives by the products of the foreſts,

foreſts, as in the governments of Archangel and Olonetz, ſuch a reſtriction would turn out to be highly detrimental. The propoſal for obviating theſe difficulties by aſſigning to every cottage the fee-ſimple of a tract of foreſt, might not be in all places practicable, as it would excite juſt cauſe of apprehenſion, that the poſſeſſor for the time being would ſoon lay waſte his portion for the ſake of ſecuring a preſent advantage, becauſe the ſtate of vaſſalage binds the lord to provide for the maintenance of his boors *. For all theſe reaſons it is not perhaps poſſible to introduce the foreign management of timber into Ruſſia: it nevertheleſs remains certain that a greater ſaving to the foreſts might be effected without difficulty, as is even ſhewn by the example of ſeveral ruſſian land-owners.

The FORESTS OF THE CROWN are treated with ſomewhat more care, and though even for theſe there are no foreſt-regulations ſubſiſting, yet there is no want of laws committing the guardianſhip of them to proper officers, and forbidding the waſte of them under ſevere penalties. The uloſheniye had already regard to this important object, and ſeveral ukaſes of Peter the great aſſign particular puniſhmenrs to the felling of the forbidden timber, for which purpoſe the foreſt-officers of that time were provided with peculiar inſtructions. In the ſequel, and after the wardens were abo-

* Lepekhin's travels, tom. i. p. 38. Hupel's ſtaatſverfaſſung, tom. ii. p. 393.

liſhed as unneceſſary, the land-ſurveying chancery received ſtill more circumſtantial precepts relating to the culture and ſparing of the foreſts, and the foreſts of the crown are now under the guardianſhip of the œconomy-directors and the finance-chamber of every government *. One of the lateſt ordinances concerning this matter, is a ukaſe of the 26th of March 1786, in which we find the following remarkable order: that all the crown-foreſts in the government ſhall be circumſtantially deſcribed, ſurveyed, ſurrounded with ditches, and partitioned into timber-falls; and again in December 1791, the ſenate iſſued a precept to the governors-general and their deputies, ſhewing in what manner the ſaid orders and inſtructions were to be put in execution.

As the ſcarcity of wood is continually increaſing even in diſtricts where are eſtabliſhments for working the mines, it becomes neceſſary that more effectual meaſures ſhould from time to time be adopted to put a check to this profuſe diſſipation

* Some of the moſt remarkable of the laws relating hereto are the following: Of ruining, cutting down, and ſetting fire to the foreſts: Uloſheniye, cap. x. ſect. 218 to 224. Puniſhments for felling the forbidden wood: Ukaſe of Feb. 9, 1720. Inſtruction for the warden concerning the ſhip-timber, Feb. 9, 1722. For the chief ranger: 1723. Inſtruction for the land-ſurveying chancery; cap. iv. ſect. 12. and 64; alſo cap. 6. ſect. 20. What wood ſhall not be uſed for making tar: Nov. 3, 1766. The foreſts are relinquiſhed to the abſolute diſpoſal of the owners of eſtates, Sept. 22, 1782.

of

of the treaſures of the foreſts. The general means by which a better management might be brought about in this material department of political œconomy, are for the moſt part ſo plain and ſimple, that the application of them can be attended with no great difficulties. The chief would be to introduce a good foreſt-regulation ſuited to each particular government, and to ſee that it were duly obſerved. A double attention in this reſpect ought to be paid to the foreſts which ſkirt the Dvina and the Dniepr, from which the fine maſts and other timber are obtained for the Riga trade; again, the oak-foreſts about the Inguletz, the Donetz, and about the little rivers Mius and Krinka in the territory of Taganrok; in fine, the foreſts which border the Don in the diſtricts of Pavloſſk and Voronetch conſiſting of oaks and firs, the preſervation of which is of great conſequence to the navigation of the Euxine. The foreſts in the vicinity and on the margin of the Volga, in the governments of Kazan and Niſhney-Novgorod, are uſeful for the navigation of the Volga and the Caſpian. From the immenſe foreſts of firs which ſurround the head of the Volga, perhaps might be obtained maſt-timbers, the tranſport of which along the Pola, and by the Ilmen-lake to St. Peterſburg, might be eaſily effected. Of nearly as much importance are the foreſts on the Oka, the Mokſha, and the Kama, moſtly conſiſting of lindens, the ſparing whereof would be very deſirable, as well in regard

regard to the trade in bark-mats as on account of the honey and wax. Laſtly, the foreſts in the governments of Archangel, Olonetz, and Vyborg demand the ſtricteſt œconomy, in order to derive from them a conſtantly equal utility; and the ſame may be ſaid of the diſtricts of Nertſchintſk, Kolyvan, Perme, Ufa, &c. for having always a ſtore of charcoal ſufficient for the ſmelting of metals *. The additional wealth in foreſts, which Ruſſia has acquired by the late annexation of the poliſh provinces, ſhould likewiſe be ſaved from ruin by a better management. — For the attainment of theſe important purpoſes, however, the mere foreſt-police is not always ſufficient, if it be not connected with a careful nurture of the foreſts. Nature provides not, at leaſt not at every ſeaſon and in every diſtrict, ſo amply and rapidly, for the multiplication of the various kinds of trees, as human induſtry, even with the moſt frugal procedure, advances their deſtruction. It would, therefore, be neceſſary to have recourſe to the method of ſowing and planting woods, univerſally known and practiſed in other countries, and to introduce this artificial culture, where the ſcarcity is become ſenſible. Generally ſpeaking, the ruſſian countryman has no idea of what is properly called wood-ſowing, endeavours ſhould therefore be uſed to teach him, by practical directions, the time when every ſpecies of tree-ſeed is at its maturity, the beſt ſeaſon for ſowing

* Guldenſtædt's akad. rede, § 27.

it,

it, and the moſt approved manner of treating theſe objects *.

In regard to the foreſts belonging to the crown, ſuch an improved foreſt-culture as this, and grounded upon principles, might be univerſally introduced; but as to the foreſts that are private property, it would be difficult to reduce the detail into method, and ſtill more difficult to put it in practice; as on one hand the crown has granted to the owners of eſtates the complete occupancy of their lands, and on the other hand the ſtrict execution of the foreſt laws would be liable to infinite difficulties and expence. For theſe foreſts then it would be ſufficient to deliver certain general regulations in the uſing of them, conformable to the relations of the proprietors and the boors, and confined ſolely to the prevention of the great damage which may accrue to the country in general from a thoughtleſs and profuſe expence upon the foreſts. If it were poſſible, for example, to confine the drawing of tar and the burning of pot-aſh to the broken branches and unſerviceable trees, not only a great deal of fine wood would be ſaved, but

* A very practical direction for ſowing the foreſts in the northern regions of the ruſſian empire has been publiſhed by the œconomical ſociety in the xxviith part of their uſeful tranſactions. In the circle and the government of Vyborg have been ſown ſince 1788, at the inſtance of the admiralty at St. Peterſburg, great numbers of larch trees, of which 12,000 are in the moſt flouriſhing condition. Probably this good beginning may be productive of more general effects.

the

the foreſts themſelves would be cleared and bettered by it. The uſe of bark-ſhoes and lath-lights, in a nation poſſeſſing a ſurplus of hides, oil, and tallow, ſhould by degrees be entirely aboliſhed, as it begins already to be leſs frequent in ſome diſtricts; the building of brick-houſes ſhould be encouraged, the rhœdungs ſhould be confined within ſome reſtrictions, and the planting of live hedges be brought into practice. Nothing is impoſſible to a wiſe and active adminiſtration, if the people be but properly made acquainted with their true intereſts; and how eaſily might it be proved to landowners, that their private advantage as well as the benefit of the whole is connected with œconomizing and preſerving the foreſts!

SECTION VIII.

The Management of Bees.

THIS, which in moſt countries of Europe forms but a very inſignificant branch of huſbandry, is in Ruſſia an important buſineſs ſtrenuouſly carried on, as the chief means of ſubſiſtence to ſome nations, and as it obtains a product which is even not indifferent to foreign commerce. So conſiderable a quantity of wax is produced in the ruſſian empire, that, after deducting the home conſumption, about 12 to 15,000 pood of it are exported only from the ports of the Baltic. Honey likewiſe forms an important article of inland

conſump-

conſumption, as almoſt all Siberia is provided with this neceſſary from european Ruſſia. The beſt ſort is the white linden-honey, principally obtained from the hives of tame bees in thoſe parts where the linden-foreſts moſt abound, as on the Oka, the Don, in White and Little-Ruſſia, in the newly-acquired poliſh provinces, and in the weſtern tracts of the ſouthern Ural. Of both products Ruſſia exported in the year 1793 to the amount of upwards of 383,000 rubles, whereof the export in wax and wax-candles alone amounted to 378,000 rubles.

The culture of bees is proſecuted in Ruſſia in a way peculiar to itſelf, and more than anywhere elſe in the groſs. Bees are kept, indeed, in moſt of the governments, but the WILD culture is by far more vigorouſly purſued, and particularly in the uralian foreſts in the government of Ufa, whereas beyond the uralian mountains and throughout Siberia there are not any bees. The nations which chiefly devote themſelves to this buſineſs are the Baſhkirs, the Tartars, the Tſchuvaſches, the Tſcheremiſſes, and the Meſchtſcheriæks, particularly in the governments of Kazan and Ufa. Among the Baſhkirs are individuals who poſſeſs, beſides their bee-gardens, ſome hundreds, nay ſome thouſands of wild beehives in the foreſts, and obtain yearly from forty to a hundred pood of honey. The manner of proceeding with the bees, is, with all thoſe nations, like that in uſe among the Baſh-

kirs, accordingly we will give a brief account of only theirs*.

Moſt of the bee-ſtages are in the foreſts, where theſe inſects ſpontaneouſly enter the hives prepared there for them by the people. To this end the Baſhkirs look out for the ſtrongeſt and ſtraighteſt trees of the hardeſt kinds of timber, on which, at the height of four, five, and more fathom above the ground, they conſtruct the bee-houſe, by hollowing out the trunk plain and ſmooth, with a tool reſembling a chiſſel, cloſing the aperture with a board, in which are left little holes for the bees to enter and come out at. The dexterity with which the Baſhkirs perform this work, and climb up the loftieſt and ſmootheſt trees is truely ſurpriſing. A ſharp hatchet and a common rope is all that they require. The workman places himſelf againſt the tree, faſtens the rope round his body and the trunk, makes with his hatchet at a certain height a notch in the tree, and ſetting his feet againſt the tree, ſprings, by the aſſiſtance of the rope, up to that height, whence he makes another notch as high as he can reach, and proceeds in this manner till he has attained the proper elevation. Here, where he muſt tarry longer, he makes his ſtep more commodious, and reſting in the rope performs his neceſſary work, for which he has brought up the tools in his

* Pallas, travels, tom. ii. p. 18.

girdle. Below the bee-houſe all the branches are carefully cut away, to render the tree more difficult for the bears to climb. Notwithſtanding which theſe animals, ſtill pretty frequent in the uralian foreſts, are the moſt dangerous enemies to the culture of bees; and therefore the moſt arms and other means are employed againſt them.

The moſt uſual of theſe is the contrivance of furniſhing the whole trunk of the tree with knives or iron ſpikes crooked upwards, which the bear indeed in clambering up is cunning enough to avoid with great dexterity, but in ſliding down they generally coſt him his life; yet there have been inſtances that old thieves of this ſpecies even in climbing up have looſened and deſtroyed theſe weapons with their paws. With ſurer ſucceſs a thick block of wood is employed, by being ſuſpended before the aperture to the hive, which as often as the bear, with increaſing fury, throws from him, ſwings back, and hits him on the head on rebounding from the tree. At length irritated to the utmoſt he increaſes the violence of his efforts, and at laſt exhauſted by rage and exertions, he falls upon the ſpikes that are planted on the ground to receive him. But the moſt ingenious method is a trap of the ſimpleſt kind, by a ſquare board with a rope at each corner united at top, (like a large ſcale which we ſee in a wholeſale ſhop,) and faſtened to a branch in ſuch manner that the board is on a level with the door

of

of the hive. The bear, finding this ſeat ſo conveniently placed to receive him, gets into it, and begins tugging at the ſlight faſtening to the trunk of the tree, which hinders him from getting at the hive; having looſed the catch, the board ſwings off with him to its perpendicular direction on the branch to which it is ſuſpended, where he is either obliged to ſit in the air till his purſuer arrives to ſhoot him, or to throw himſelf down on the pointed ſtakes that are planted round the foot of the tree. — Another foe to the beehives is the wood-pecker, who is kept off by thorns and twigs tied round the hive.

It has been affirmed by Maraldi and other writers, that in one hive there are ſeldom more than 18,000 bees. Counſellor Rytſchkof at Orenburg weighed in an accurate balance dead bees, and found that ſeventy-five went to a ſolotnik, but for greater certainty reckoned only fifty to the ſaid weight. A good ſwarm contains in thoſe parts from ten to twelve pounds, and the very worſt, of which they uſually bring two or three ſwarms into a hive, three or four pounds; yet there are even ſwarms of eighteen to twenty pounds. According to the forementioned weight, therefore, the bees in twelve pounds muſt be reckoned at leaſt at 57,000, and in nineteen pounds at leaſt 112,000 bees. If this obſervation do not refute the calculation of the french author, it at leaſt ſhews, that the bees in France

and thoſe in Orenburg muſt be of very different kinds.

It has been farther aſſerted, that the bees, as very cleanly inſects, collect their honey from trees and flowers alone. But in the diſtrict of Orenburg it is uniformly maintained, that likewiſe blood, fleſh, and other leſs cleanly ſubſtances are of ſervice to them. Rytſchkof, deſirous of knowing from his own experience whether his bees would feed on fleſh, cauſed a fowl to be killed and drawn, and put it in a hive, which remained three or four days untouched; but as ſoon as it began to putrefy, it was devoured to the very bones*.

SECTION IX.

The Culture of Silk.

SILK is now become a neceſſary of ſuch importance, that endeavours have been uſed to introduce and to encourage as much as poſſible the culture of it even in the countries lying to the north. The luxury of wearing ſilk articles of dreſs, has found ſuch general admiſſion into Ruſſia, even among the lower orders of people, eſpecially of the female ſex, that the ſums annually

* Von der bienenzucht in der kazaniſchen und orenburgiſchen gegend; im St. Peterſb. journ. tom. i.

paid

paid for ſilk and ſilken goods cauſe an enormous expence, at which we ſhould doubtleſs be aſtoniſhed, if it were to be accurately calculated. According to Guldenſtædt's ſtatement Ruſſia paid in the year 1768 for raw ſilk 343,000 rubles, and 671,000 rubles for wrought ſilk; but in theſe ſums it is ſcarcely probable that the importation of perſian ſilk by land is compriſed, and as all the articles of import have conſiderably ariſen ſince that time, it is to be ſuppoſed, that this expence alſo muſt be much greater. — So material a rubric of the general neceſſaries conſequently demands the attention of the political œconomiſt, as it is almoſt entirely ſupplied by foreign induſtry, though the ruſſian empire comprehends within its pale large tracts of country which offer all poſſible advantages to the culture of ſilk. The white and black (or tartarian) mulberry-tree, the leaves whereof are the only food of the ſilk-worm, are found very plentifully in ſeveral parts of ſouthern Ruſſia, e. g. in Taurida; on the ſhores of the Terek, between Moſdok and Kitzliar; on the ſhores of the Kuma, near Madſhar; on the ſhores of the Sarpa, about thirty verſts from Sarepta; on the ſhores of the Don, at Azof, and Tſcherkaſk; on the ſhores of the Volga, at Aſtrakhan, near Tzaritzin; on the borders of the Achtuba, at Saratof; and on the ſhores of the Khoper, near Novokhoperſk. In the Ukraine and in the government of Ekatarinoſlaf we find them likewiſe in abundance; name-

ly, at Beloſſkaiya, Koſloſſkaiya, near the fortreſs of St. Elizabeth, near Poltava, Staroi-ſenſharof, about Mirgorod and Lubni, at Neſhin, Baturin, Podlipnoye, and Glukhof, and laſtly in the greateſt multitudes about Kief. In all theſe places the mulberry-tree thrives excellently in open air; ſo that plantations of this uſeful tree might everywhere be boldly undertaken in the regions between the Dniepr and the Ural, within the 53d degree of north latitude; namely, in the governments of Caucaſus, Taurida, Ekatarinoſlaf, Voſneſenſk, Kief, Tſchernigof, Kharkof, Saratof, Voronetch, Simbirſk, and in the milder diſtricts of Kazan and Ufa*. Hitherto the culture of ſilk has been confined to the parts adjacent to the Terek, near Aſtrakhan, on the borders of the Achtuba, near Tzaritzin in the government of Saratof, at Beloſſkaiya and Kief, and a few other places, but not by far with that ſucceſs which the importance of this branch of induſtry demands, and which the natural advantages of the country ſeem to promiſe.

Beſides the wild mulberry-trees which grow plentifully in the caucaſean territory, the tartarian and the white, the ſeeds whereof are brought from Perſia, are planted in all the vineyards, particularly about the Terek. There is no doubt that theſe plantations might be carried on to a much

* Guldenſtædt's akad. rede, 43.

greater

greater extent here, where the culture of ſilk would furniſh a ſuitable employment particularly for the Tartars on the terekian and kubanian lines. As the Kozaks are diſpoſed to marry early in life, perhaps the plantation of a certain number of mulberry trees might be made a condition for obtaining the permiſſion neceſſary to that end, or accepted as one ſtipulation for exemption from the ſervice. — The ſilk-worms are fonder of the leaves of the white than of the black mulberry-tree; but, it having been diſcovered that, after feeding on the latter they ſpin a ſtronger ſilk, they are at firſt kept on the leaves of the white and afterwards on tartarian trees. The mulberries which are not conſumed raw are generally made into a ſpirituous liquor by fermentation, ſomewhat reſembling cherry-wine, and is ſold by the caſk very cheap *.

Along the Achtuba, in the tzaritzintſian circle of the government of Saratof, the mulberry-tree begins firſt to mingle among the commoner ſorts of trees; though it is here but of very inferior growth; and, being alſo expoſed to the inundations of the Volga, and to the fire of thoſe mighty hunters, the Kalmuks and Kozaks, it naturally cannot flouriſh in theſe parts to any great degree without particular attendance. For ſome years paſt, therefore, regular plantations have been laid out

* Falk's beytræge, tom. ii. p. 254.

on flat elevated ſpots of the low-lands, where the ſoil is moiſt enough, without being expoſed to the inundations; the wardens appointed over the ſilk-culture here have likewiſe cauſed ſheds to be built, in which the ſilk-worms are conveniently bred. — Theſe plantations might be infinitely extended the whole length of the Achtuba, and indeed upon the high places of the iſlands; and all along the lower Volga, on the Kuma, and quite to the Terek, ſo rich a ſilk-culture might be introduced, that theſe hitherto unfruitful and arid regions would become one of the moſt populous and beneficial countries of the empire, ſo as to be the ruſſian Ghilan. This buſineſs has till now been carried on, properly ſpeaking, by only two villages ſituated on the Achtuba, the people of which are called Beſrodniye, parentleſs, becauſe the firſt inhabitants were run-aways who either could not or would not tell whence they were ſprung. In both of them, beſides their wretched agriculture, the breed of cattle and the fiſhery are ſo productive, that the inhabitants certainly would not addict themſelves to the culture of ſilk if they were not compelled to it by the officers who have the ſuperintendance of it, who oblige them to deliver annually, in lieu of the capitation-tax, a ſtated quantity of ſilk in conſideration of a ſtipulated payment*. So early as the year 1720 a ruſſian merchant, named Duchof,

* Pallas, travels, tom. iii. p. 659.

made

made a ſmall beginning in this culture on the Achtuba; however it came to nothing, till it was ſet on foot again in 1756 at the expence of the crown. Nevertheleſs the profits ariſing from it are ſo trifling, that, according to the account of one of the lateſt travellers, only three or four pood of ſilk are annually obtained there; and even the climate is ſo unpropitious to this ſpecies of induſtry, that ſometimes all the ſilk-worms are killed by the froſt*. — On account of the overflowings

* The teſtimony given by this traveller (the academician Oſeretzkoſkoi) of the ſtate of the ſilk-culture on the river Achtuba, is by no means favourable. From his account we learn that the number of theſe ſtragglers enrolled to this buſineſs amounts to upwards of 7000 perſons of both ſexes, and the overſeer of the inſtitution receives with open arms all comers who cannot exactly call to mind their pedigree, as they are very uſeful to him in his fabric, (in which annually three or four pood of ſilk are ſpun!) One of the officers belonging to the fabric every year fetches the ſilkworms'-eggs from Kitzliar, but which do not always ſucceed on the Achtuba; in the year 1782, for example, all the worms were frozen, and not a thread of ſilk could be ſpun. "If "even it be true," adds our traveller, "that the overſeer "of this fabric has the art of giving a particularly good "quality to his ſilk, and if even this particularly good ſilk "be ſent henceto Peterſburg, it yet always remains a doubt "whether even this ſilk was got at the achtuban fabric, and "it is more than probable that it properly owes its origin "to warmer climes than Aſtrakhan and Kitzliar; which is "even confirmed by the inhabitants of theſe towns." Beſchreibung von Aſtrakhan; im journ. von Ruſsl. zweyter jahrgang, tom. i. p. 41.

of

of the Volga, the mulberry leaves, as the worms uſually creep out about the middle of May, are obliged to be gathered in canoes.

In the territory of Kief the mulberry-trees are ſo numerous that they not only compoſe a little wood in the imperial gardens, but they are found among almoſt all the inhabitants and about every houſe: they are moreover ſo large, as ordinarily to meaſure a foot and a half in diameter. In Podol, a ſuburb of Kief, is an imperial mulberry-plantation, containing five hundred large mulberry-trees, and a building for breeding of ſilk-worms; and yet the management of them is here carried on as nothing more than an amuſement, and which the inhabitants care but little about, though it might be rendered ſo profitable*. Not much better is this buſineſs managed in Aſtrakhan and the other places abovementioned; ſo that what is procured by this induſtry ſcarcely merits a place among the products of the ruſſian empire.

As the great benefit which Ruſſia might derive from the culture of ſilk is not to be doubted, and as there are alſo diſtricts enough where it could be carried on to the beſt advantage, it is not ſo neceſſary to recommend it in general as to diſcover the means of procuring admiſſion for ſo deſirable and lucrative an occupation among the inhabitants

* Guldenſtædt's travels, tom. ii, p. 345.

of

of the ſouthern provinces. The imperial eſtabliſhments which have been made to this end, have not as yet been attended with the expected effects, and will perhaps never produce any better. In order to raiſe this branch of induſtry, endeavours ſhould be uſed to excite a ſpirit of enterpriſe in private perſons, by convincing them of the advantages that would accrue to them from it, and furniſhing them with the beſt means for carrying it on. A comprehenſive ſet of directions for the culture of ſilk, backed by the example of experienced foreigners, premiums for the planting of mulberry-trees, ſuitable rewards for the production of a certain quantity of ſilk, proviſion for the commodious and ſafe diſpoſal of the ſilk produced, and a hundred other means of like nature might be put in practice by the government and even by the proper officers on the ſpot. How much might be done by theſe and ſimilar methods was exemplified in Pruſſia by the late miniſter of ſtate, count Hertzberg, which highly deſerves imitation, and by which particularly are refuted the miſerable objections which the great multitude from ignorance and ſloth are apt to bring againſt every uſeful undertaking.

Since the year 1751, when Frederic II. formed the reſolution to introduce the culture of ſilk into his dominions, this ſpecies of induſtry has had ſuch ſucceſs, that in 1784, they already counted upwards of a million of full-grown mulberry-trees,

and

and in the ſame year the amount of the ſilk exceeded 14,000 pounds, which was wrought up in the manufactories of the country into pieces of extraordinary quality. This inſtance ſhews, that the pruſſian dominions, though lying ſo far to the north, are not ill-ſuited to this culture, as from inveterate prejudice, it had been conſtantly aſſerted. The patterns of the pruſſian ſilk that were ſent to Italy were eſteemed equal to the beſt ſilks of Piedmont and Lombardy, and ſince the pruſſian manufacturers have got the better of their former notions, they find it not only very ſerviceable, but even prefer it to the foreign, particularly for ſtockings and ſtrong goods. — The methods employed for diſſeminating the culture of ſilk, and which in general are ſtill employed, conſiſted in conſiderable advances of money, to which the king appropriated the ſum of a hundred thouſand dollars, in obliging the farmers of the royal demeſnes to plant a certain number of mulberry-trees, in the diſtribution of prizes, in appointing inſpectors, in directions ſent to the country-clergy and village-ſchoolmaſters, &c. When, in ſpite of all theſe efforts this culture from the year 1784 began to decline, the king in 1788 erected a particular department with a fund of 12,000 dollars, the preſidence and direction whereof was undertaken by count Hertzberg without any gratuity. Since which time the culture of ſilk in the pruſſian dominions has gone on with increaſ-

ing

ing ſucceſs, and it is not improbable that in a ſhort time it will be naturalized with as beneficial effects, as it is now in the countries whither Juſtinian tranſplanted it from China, and Henry the fourth, notwithſtanding the remonſtrances of Sully, from Italy *.

SECTION X.

Mines.

With the vaſt ſtores which Ruſſia poſſeſſes of animal and vegetable nature, ſhe would be deemed extremely happy, were ſhe even obliged to diſpenſe with the ſubterranean treaſures which the earth incloſes in her bowels. A fertile ſoil and a ſky propitious to the greateſt variety of productions are to a numerous and laborious people the moſt infallible ſources of proſperity, eſpecially if the diſpoſition to culture be encouraged by a ſituation favourable to commerce. The ruſſian empire produces the prime neceſſaries of life in the greateſt abundance, and in ſome meaſure ſpontaneouſly; and whatever is wanting to the inhabitants in more refined and artificial neceſſaries is procured to them by the exchange of their natural products which are everywhere neceſſary and as univerſally

* Recueil des déductions, manifeſtes, &c. rédigés et publiés par le comte de Hertzberg, tom. ii. p. 495.

demanded. In this enviable condition, which is ever more flouriſhing as the population and the induſtry increaſes, Ruſſia at the ſame time enjoys the important advantage of having MINES in her poſſeſſion, which may be matched with the richeſt and moſt productive of thoſe in any quarter of the globe; the working whereof for a century paſt has created a new national occupation with ample returns, and the aſtoniſhing ſpoils whereof have afforded the means to a beneficent adminiſtration for the moſt extraordinary undertakings. — For enabling us to give a view of the preſent ſtate of ſo important a branch of induſtry with ſome degree of preciſion, it will be neceſſary to preface it with the principal lineaments of the HISTORY OF THE RUSSIAN MINES, a hiſtory, which from its very late origin is indeed of no great compaſs, but not the leſs abundant in curious and remarkable tranſactions.

The principal ſcene of theſe tranſactions lies in the cold metallic regions of Siberia, the acquiſition whereof, after the lapſe of a hundred years, unexpectedly became of ſuch great importance to the ruſſian empire; for though the ſoil of this enormous country is almoſt everywhere pregnant with ores and noble as well as uſeful minerals, the european part however is herein by no means to be compared with the aſiatic. The largeſt works are at preſent carried on in the URALIAN, in the ALTAYAN, and in the NERTSCHINSKIAN mi-

neral

neral mountains; of leſs importance are ſome iron and copper mines in thoſe of OLONETZ, and in ſeveral other parts of the empire. In the uralian mountains are gold, iron, and copper mines, which latter are ſome of the moſt important in the empire. The altayan mountains contain the richeſt gold and ſilver ſhafts, alſo veins of lead, copper, and iron, impregnated with gold and ſilver. But in the nertſchinſkian mountains are very rich mines of lead containing gold and ſilver *.

The diſcovery of theſe ſhafts, as well as the origin of the proper mine-working in Ruſſia is of no older a date than the beginning of the preſent century, as the ſingle attempts that were made prior to that period for finding and working the metals, were but very inſignificant. The nation has poſſeſſed iron-ore from times immemorial. The boors formerly collected it themſelves, ſmelted it and made iron of it. When they were deficient in this metal, inſtead of it they had recourſe to hard wood, which, in order to make ſtill harder for their own uſe and for poſterity, they laid in bogs; both methods are practiſed ſtill in ſome parts of the empire †. — In Siberia, at a time

* See the characteriſtics of theſe and the other mountains, in our firſt volume, p. 84 & ſeq.

† Schlœtzer (in his Muntz, geld, und bergwerks geſchichte des ruſſiſchen kaiſerthums, p. 94.) from von Haven, Nye og forbedrede efterrætninger om det ruſſiſke Rige, p. 270—283.

reach-

reaching back beyond all hiſtory, mining was ſo vigorouſly practiſed by a nation who now bear the name of Tſchudes, that their various and large Haldes ſtill ſubſiſting have given riſe to a great number of newly adopted and in part very rich mines *.

Of proper mining, however, hiſtory ſays nothing previous to the time of Ivan Vaſſillievitch. This prince, in the year 1491, ſent two Germans to the river Petſchora on mineral diſcoveries, who were ſo fortunate as to find ſilver and copper ore; but of the farther progreſs of this buſineſs no accounts are extant. During the reign of Ivan Vaſſillievitch the ſecond, the Engliſh, by a treaty concluded in the year 1569, obtained the privilege of finding out and ſmelting iron ore, on condition that they ſhould teach the Ruſſians the art of working this metal, and pay on the exportation of every pound one denga or half-penny †.

Under tzar Alexey Mikhailovitch, was eſtabliſhed the firſt regular mine-work in Ruſſia, about ninety verſts from Moſco, where it is ſtill going

* Concerning the mine-works of this nation, whom Georgi takes to be the antient Mandſhures, an intereſting account may be read in Pallas, travels, tom. iii. p. 608—610.

† Of the firſt arrival of the Engliſh and the origin of their commerce in Ruſſia, in the St. Peterſburg journal, tom. ix. p. 149.

on

on at this day. Two foreigners, the one a Dane, the other a Dutchman, who were at Moſco on affairs of commerce, and had found ore in that territory, requeſted and obtained permiſſion to work it. The moiety of the works erected by them lapſed, on the death of the Dane, to the tzar, who granted it to a Nariſhkin, to whoſe family it ſtill belongs, as the heirs of the Hollander are in poſſeſſion of the other half. The miners and forgers at theſe works are Germans, who ſettled and propagated there upwards of a century ago.

Theſe works, the firſt and only ones in Ruſſia prior to Peter the great, were viſited by that monarch, who wrought in them himſelf, ere he ſet out on his firſt journey into foreign countries. In 1698, remaining ſome time in Saxony, he not only made himſelf acquainted with the art of mining there, but requeſted the king of Poland to give him ſome workmen; and in the following year twelve of them, with a maſter at their head, and the aſſayer Bluher, went to Ruſſia, where they found ore in the diſtrict of Kazan and Kaluga, and began to work. The emperor, however, finding that with theſe two eſtabliſhments he ſhould be in want of people, ſent Bluher in 1701 again to Saxony, who returned in the ſame year with ſeveral perſons ſkilled in mining, and repaired immediately to Olonetz, where they opened a mine of copper-ore. The ſubſequent journies

of this man gave the firſt occaſion to the diſcovery of the ſiberian minerals, for in the year 1703, he was diſpatched to the permian mountains near Solikamſk, where he found an old mine, whence he proceeded farther along the Kama, and ſoon after his return to Moſco, making a freſh journey in the diſtricts of Azof and Aſtrakhan, he puſhed forward to Caucaſus.

In the mean time the emperor had appointed lieutenant-colonel Henning to be director of the mines of Olonetz; a foreigner of great activity, who reſtored the old ruinous iron works, and put them in a condition to furniſh the new-created navy with large and ſmall cannon and other iron ammunition. In the year 1719 Henning travelled over ſeveral countries of Europe for collecting information concerning the ſtate of mines and founderies, and on his return got together, by permiſſion of the kings of Poland and Pruſſia, a conſiderable number of maſter-workmen, by whoſe aſſiſtance he ſet up ſeveral wire-manufactories, forges for ſteel, hammers for tin plates and making iron bars, ſteel-furnaces, anchor-ſmithies, and various machines, all worked by water.

As it appeared from the accounts delivered in, that ore was to be found in almoſt every part of the empire, Peter the great in the year 1719 conſtituted a peculiar mine-college, and ſhortly after ſent major general Henning, whom the emperor had promoted for his uſeful ſervices, in quality of

of director to Siberia, for the purpoſe of completing the works there already begun. Henning eſtabliſhed a chief mine-office at Ekatarinenburg, and a ſubordinate office in the territory of Perme, built ſeveral workſhops, furnaces, forges, founderies, and mills for flatting and ſlitting, and within the ſpace of ſix years had made ſuch progreſs in all theſe works that the various expences attending them were paid with uſury by the metals obtained. In the years 1726 and 1727 he ſent annually 9 or 10,000 pood of copper and 140 to 150,000 pood of bar-iron, beſides a great quantity of wrought iron and copper, by means of the water-communication, from Siberia to Moſco. Theſe ſervices procured him the rank of lieutenant-general of the artillery and the poſt of general director of all the copper and iron works in Siberia*.

The art of mining, which, properly ſpeaking, had taken its riſe under Peter the great, was thus by the wiſe and unwearied exertions of that prince encouraged and advanced in all imaginable ways. In the year 1716, the emperor by a manifeſto had given his ſubjects the firſt encouragement to mining. Three years afterwards he inſtituted the college of mines, and from that time no vayvode dared preſume to meddle with mines. At the ſame time he found it neceſſary, "as his empire "was full of ſubterranean treaſures, and theſe

* Schloetzer, from von Haven, p. 85—92.

" rich ſources of ſubſiſtence were hitherto neg-
" lected, partly from ignorance and partly from
" the inſecurity of the poſſeſſion," to eſtabliſh ſeveral remarkable privileges in the view of encouraging the ſearch after ores and the working of mines. By an ukaſe of the year 1720 theſe privileges were extended to all foreigners without diſtinction. Other ordinances of ſimilar purport enjoined, that perſons who were ſearching for ores ſhould have no impediments thrown in their way; that the woods about the works ſhould be kept up, and that for the protection of the mines fortreſſes ſhould be conſtructed on the frontiers*.

Such was the ſtate of the ruſſian mines when Peter the great quitted the ſtage on which he had laboured ſo much and with ſuch great ſucceſs. Ruſſia now poſſeſſed both copper and iron in abundance; but the diſcovery of the rich gold and ſilver mines of Kolhyvan, which are ſince become a ruſſian Potoſi, was reſerved for aftertimes. Akinfy Demidof, a wealthy individual and the father of the uralian mine-works, in 1725 received intelligence of the Tſchudian mines in the mountains of Kolhyvan, and cauſed them to be viſited by german miners whom he had at the former works. As here were found very rich veins of

* Schlœtzer, from Tſchulkof's iſtoritſcheſkoye opiſaniye roſſiiſkoi kommertzii, p. 115—117.

copper-

copper-ore, he raiſed ſome works in the year 1727 adjoining to the lake Kolhyvan. The number of his labourers was ſoon increaſed by people who had run away from the eſtates to which they belonged, whom he, by a ſpecial privilege, might admit and employ in his works; and a conſiderable number of the crown-boors were at the ſame time granted him. The firſt mines he began to work were copper, the ore of which, on an average had ſeven or eight per cent. of native cupriferous ſilver*.

In the reign of the empreſs Anna, the iron mines began to be of ſuch conſequence, that in order to gain the preference from the ſwediſh iron the price of the ruſſian was fixed at fifty-ſix kopeeks the pood. The nertſchinſkian ſilver-mines diſcovered in 1704 were farther proſecuted, but at that time were not near ſo productive as afterwards. In the year 1739 the firſt gold-ore was diſcovered in the mountains of Olonetz, where the Voytzer-mine was opened, but afterwards abandoned. — Alſo there aroſe a report during this reign that the kolhyvan copper-ores contained ſilver; an aſſay was made in 1732, and the reſult of it proved ſo beneficial to the owner, that Demidof, as before, obtained the unlimited power of working it †.

* Herrman's ſtatiſtiſche ſchild. p. 319. Compare with von Haven, in Schlœtzer, p. 95—101.

† Schlœtzer, from Tſchulkof, p. 111. Herrmann's ſtatiſt. ſchild. p. 317. 319. See alſo p. 112—114. 119—121. 127.

Under the empreſs Elizabeth the ruſſian mines proved of greater importance almoſt every year. The works at Nertſchinſk continued to be carried on with increaſing ſucceſs. From the time of their diſcovery till the year 1751 they had delivered in all 587 pood 7 pound and 54 ſolotniks of ſilver, from which the gold was not ſeparated; in the year 1756 the ſpoils obtained from them ſuddenly roſe, and in the ſingle year 1759 they yielded near 173½ pood. The Voytzer gold-mines likewiſe in the mountains of Olonetz went on better. To theſe were added the gold-mines at Bereſof in the mineral mountains of Ural, which had been opened ever ſince 1754, but only began to be of conſequence in this reign; and laſtly, the acquiſition made by the crown of the mines of Kolhyvan, whence aroſe a ſilver age to Ruſſia. On the firſt examination made in 1732 into the ſtate of theſe mines, Demidof was indeed confirmed in the poſſeſſion of them; but one of his climbers in 1743, thinking himſelf injured, abſconded with a great quantity of rich minerals, and Demidof having good reaſon to fear that he would ſhew the ſilver-ore at St. Peterſburg, reſolved to make a virtue of neceſſity and produce it himſelf. The cabinet hereupon in 1745 ſent thither a commiſſion to take the mines, as at that time it was not lawful for a private perſon to hold gold and ſilver mines, into poſſeſſion in behalf of the crown. In the year 1748 the working of ſilver was properly begun

in

in the Schlangenberg, or ſerpentine mountains, and by degrees a number of mines and ſhafts were opened and worked, of which none however were ſo bountiful as the Schlangenberg*.

But the moſt brilliant æra of the ruſſian mines was the reign of Catharine II. The improvement of the works undertaken from her firſt acceſſion to the throne, the appointment of able and honeſt people, and the removal of numberleſs abuſes and frauds gradually effected a production which excited the amazement of the world, and undoubtedly forms one of the moſt glorious and memorable events of her reign, and muſt immortalize that period to poſterity. From a calculation founded on demonſtrable facts, it appears that the value of all the mineral products obtained during that reign, not including the ſalt, in the firſt half of it may be eſtimated annually at ten, in the ſequel at twelve, and at the time of her deceaſe even at upwards of thirteen millions of rubles. Taking only the loweſt ſum on an average for the whole of that ſpace, it will follow, that Ruſſia, ſince the year 1763 has gained far above three hundred millions of rubles in value from her mines and ſalt-works. In proof of this aſſertion, the following ſummary view may ſerve, from which at the ſame time will be ſeen the preſent ſtate of the ruſſian mines.

* Schlœtzer, from Tſchulkof, p. 130. Hermann's ſtatiſt. ſchild. p. 318, 319.

Of the two proper GOLD-MINES belonging to the ruſſian empire, that of BERESOF near Ekatarinenburg on the Ural is by far the moſt material. Here annually is obtained about 400,000 pood of ore, which on an average yields from every 1000 pood 40 to 60 ſolotniks of fine gold. To theſe mines belong three lavaderos on the Pyſchma, on the rivulet Bereſof, and Uktus, together having 861 troughs. The whole number of men employed in theſe works amounts to upwards of 2000, whereof about 1200 are in actual employ daily. No enrolled boors are any longer allowed to them.

The mines of Bereſof have afforded annually three, four, five, or ſix, but in later years ſeven or eight pood of gold. From the commencement of the works here in the year 1754 till the year 1788, therefore in 34 years, generally about 120 pood has been gained, which in value is eſtimated at 1,198,000 rubles, and, after deducting the coſts, have yielded above 480,000 net profit. If we take the gold and ſilver here obtained, as it proceeds from the ſeparation, according to its ſtandard in coinage; and balance it with the expences, which are paid in copper money, according to the true value of it, then a profit of near 800,000 rubles will appear.

The VOYTZER gold-mines in the mountains of Olonetz, which annually afford only a few (from 1/44 to 1770, in general 57) pounds of gold, have

have, on account of the ſmallneſs of their produce, been ſome years ſince abandoned.

The moſt important SILVER-MINES are thoſe of KOLHYVAN in the mineral mountains of Altay, which were undertaken by the crown in the year 1745. The main ſhaft is the Schlangenberg, one of the richeſt ever known in the world; the Semeonofſkoy in point of conſequence holds the next ſtation. Beſides theſe two there are ſtill others, of leſs importance, alternately or conſtantly worked; and from a new ſhaft, Filipofſkoy, on the Ulba, it is expected that the produce will in time equal that of the Schlangenberg. From all theſe mines together are at preſent annually obtained upwards of two million pood of ore, the contents whereof have of late years become poorer by one half. At firſt the pood of it contained five or ſix ſolotniks of auriferous ſilver, ſince only four, and latterly, eſpecially ſince 1785, it contains not above two and a half. Here are five founderies, and the head-quarters are at Barnaul. The workmen employed in 1786 were all together 54,000. The whole expenditure amounts yearly to 400,000 rubles, of which one half is paid in copper coined on the ſpot, the other half in bank-aſſignments.

From the year 1745, when the crown took theſe mines into poſſeſſion, to the year 1787, therefore in 42 years, they have afforded 24,460 pood of fine ſilver, and above 830 pood of fine gold, which together amount in value to upwards of thirty millions,

millions of rubles. The expences for this whole time, even including the charges of ſeparation at St. Peterſburg, come to not above ſeven millions; conſequently here is a pure gain of 23 millions of rubles, which is very much increaſed if we eſtimate the copper coin, in which this expence is paid, at its real value, and conſider, that even this is got and coined at the mines themſelves.

The ſilver, or rather the auriferous and argentiferous lead-mines of NERTSCHINSK have been in conſtant work ever ſince their diſcovery in the year 1704, but with alternate ſucceſs. Here, from the ſeveral ſhafts, more or leſs rich, are obtained annually about two million pood of ore, which however is very poor, and at preſent on an average ſcarcely contains a ſolotnik or one and a half in a pood. Here are five founderies, of which Staroi-Nertſchinſk is the chief; which is alſo the head-quarters. The workmen are about 2000, and the boors inrolled to it for cutting of wood, about 13,000. The annual expences amount to about 200,000 rubles in copper coin and bank-aſſignments.

From 1704 to 1787, therefore in 81 years, theſe mines produced 11,644 pood of ſilver, from which ſince the year 1752 about 32 pood of gold has been ſeparated. Both together amount in value to about ten millions of rubles.

According to the foregoing ſtatements, therefore, in the interval between 1704 and 1788, at all

the gold and ſilver mines were gained about 1000 pood of gold and above 36,000 pood of ſilver, amounting together in value to upwards of 45 millions of rubles, and on which the expences were not more than fifteen millions of rubles.

The moſt important COPPER-MINES of the ruſſian empire are principally in the uralian, altayan, and olonetzian mountains. The URALIAN mineral mountains, which contain by far the richeſt mines, and to which belong all the copper-works in the governments of Perme, Ufa, Viætka, and Kazan, had in the year 1779 in all 60 founderies, together containing 229 furnaces, and at which in 1782 above 190,752 pood of copper were obtained. — In the ALTAYAN mountains is likewiſe a conſiderable copper-mine; beſides, there ariſes from the cupriferous ſilver-ore a tolerable quantity of copper: at preſent in all annually about 15,000 pood. In the year 1782 here were coined 18,793 pood of copper. — The ſpoil got from the OLONETZIAN mountains, and the other ſeparate copper-works cannot be computed at more than a few hundred poods.

The entire annual amount of the copper obtained is therefore about 200,000 pood, the value whereof in money, reckoning the pood only at ten rubles, makes a ſum of two millions of rubles. As for ſome years paſt the extraction of the copper has greatly declined, we can in fact at preſent ſcarcely admit more than 200,000 pood as the certain

tain yearly total; and the price of that metal has accordingly riſen.

The IRON-MINES form the greateſt of all Ruſſia's mineral wealth, after the ſalt-works. It is known to all the world, that this empire has in all its mineral mountains, and even in many of its plains, a prodigious quantity of iron-ore of all the known ſorts; but the moſt numerous and the richeſt mines are in the URALIAN mountains, where in the year 1779 were generally at work 70 forges and 532 large hammers. There are, beſides, two ſmelting-houſes in the altayan and ſayane mountains, and ſeveral in the governments of Olonetz, Vologda, Niſhnei-Novgorod, Koſtroma, Kurſk, Tula, Tambof, &c. Without being liable to much miſtake, we may at preſent admit for the whole empire, about 100 forges and 800 hammers; but beſides the iron-works that are carried on in the groſs, there are a great number of boor-ſmiths who ſmelt the ore at home, and of the iron make various kinds of utenſils. Such little ſmithies are particularly in the governments of Olonetz and Archangel, in ſome regions of the Volga, and in Siberia near Kraſnoyarſk, Yeniſſeiſk, &c.

In the year 1782 were obtained at the uralian iron-works of the governments of Perme, Ufa, and Viætka 3,940,400 pood of wrought iron; now, as we may allow for all the other ruſſian and ſiberian governments at leaſt a million of pood, then in the whole empire about five million pood of iron

iron (the various caſt-wares not included) are annually produced: a quantity which in ſpecie according to the preſent prices, amounts at leaſt to four millions and a half of rubles. The generality of the iron-ores yield about fifty per cent. raw iron, but ſome leſs. For obtaining five million pood of wrought iron, requires, according to the manipulation here in practice, 7½ to 8 million pood of raw iron, and for the acquiſition of this material at leaſt 15 million pood of iron-ore.

The POLITICAL AND ŒCONOMICAL CONSTITUTION of the mines underwent a thorough change during the late reign; as the empreſs in purſuance of the great plan ſhe had formed of new-modelling her empire, reduced alſo this department of the public adminiſtration by ſeveral ordinances and precepts to a well-combined ſyſtem. Not only was the management of the mines greatly ſimplified, but likewiſe the privileges formerly granted to miners were confirmed and enlarged by many important conceſſions, even at the expence of ſeveral imperialties and prerogatives of the crown.

By the preſent conſtitution, the mines belong either to the CROWN, or to public inſtitutions, or to private individuals. The firſt poſſeſſes all the before-mentioned gold and ſilver mines; the ſhare, which it has in the copper and iron mines, cannot be accurately aſcertained, though it appears from authentic ſtatements to be about one ſixth of the former, and of the latter one eighth part.

All

All mines were formerly under the ſuperintendence of the mine-college, as before related: that college came to an end the 1ſt of May 1784*, and the crown-mines now belong either to the cabinet or to the ſenate.

Under the direction of the CABINET are all the gold and ſilver mines of Kolhyvan and Nertſchinſk. — The reſt of the crown-mines are dependent on the SENATE. They are managed by directors and overſeers who deliver their accounts to the finance-office of the government, and thence receive their orders†. — Beſides theſe offices there is alſo a kantora at St. Peterſburg for the ſeparation of the gold from the ſilver, over which the general-procureur has the inſpection.

The only public inſtitution, hitherto in poſſeſſion of mines is the IMPERIAL ASSIGNATION-BANK, which ſome years ago purchaſed the copper and iron works in the government of Perme of the proprietors Pochadyæſchin. For the conducting of them there is an office at the bank, and a direction ſettled at the works.

The PRIVATE MINES received in the late reign ſo many and ſuch diverſe grants by law, that it would not be eaſy to point out a country which can ſhew in this reſpect ſimilar privileges and immunities. According to the former conſtitution, the RIGHT OF WORKING MINES properly be-

* Ukaſe, bearing date Jan. 27, 1783.

† Idem.

longed

longed only to thoſe who had the right to poſſeſs land; a privilege, it is well known, enjoyed only in Ruſſia by the nobility. — The ordinances of Catharine II. grant the right of opening mines and erecting works at them, 1. to all owners of land; particularly, 2. to the nobility; and, 3. likewiſe to the therein-named burghers, and the burghers of the firſt and ſecond guilds*. Yet from the commencement of mining there have been unnoble proprietors of mines, who belonged to the claſs of merchants. But their mines are either in crown-lands, or in the country of the Tartars, Baſhkirs, Vogules, and other ſiberian nations, and in the former caſe the foreſts are given them only to cut, (for a ſtipulated time or for ever,) with the permiſſion to work the mines, but the fee-ſimple of the land was not made over to them. By the ordinance of Peter the great the freeholders were obliged to pay $\frac{1}{20}$ of the net profit, which tribute by an edict of the empreſs Anna was fixed at 2 per cent. on all the ore obtained. Catharine the ſecond aboliſhed this impoſt entirely on all the works erected on crown lands†. Likewiſe unnoble mine-owners might not buy vaſſals for workmen, though it formerly had been allowed by another ordinance to purchaſe vaſſals for manufacto-

* Ukaſe of 28 June, 1782. Ordinance reſpecting the nobility, § xxviii. xxxii. Ordinance for the municipalities, § cv. cxi. cxxxvi. † Ukaſe of May 10, 1767.

ries

ries and workſhops, wherefore many proprietors of mines had them at their works. It was the ſame with the mine-works of the nobles which lay on ſuch lands, only with this exception, that they had the right to keep vaſſals.

As to the RIGHT OF PROPERTY in mines, all the privileges granted in the preceding reigns were not only fully confirmed, but alſo in many reſpects conſiderably enlarged*. By this regulation the right of property was extended to ALL products and minerals concealed in the earth, and even GOLD and SILVER were ſpecifically by name ſecured to the undertakers, only ſubject to a tribute of the tenth. It is, however, ſurpriſing, that ſince that time nobody has begun to work gold and ſilver mines, and that in Ruſſia (except a certain Sibiriakof, in the nertſchinſkian mineral mountains; but they were granted to him prior to the ſaid ordinance) no private perſon is in poſſeſſion of any ſuch, though it is certain that there is rich ore of theſe metals, and known to the owners of certain works†.

The TRIBUTES or taxes attached to private-mines are the following: of the GOLD and SILVER, if any ſuch be gotten, the tenth part. — Of the COPPER, 1. the tenth part of the roſe-

* By the ukaſe of the year 1782.

† Herrmann's beſchreib. des uraliſchen erzgebirges, tom. ii. p. 239.

copper

copper* in natura. The tenth originates, as we have ſeen, from the edicts of Peter the great. By an ukaſe of the 7th of Auguſt 1762 it was commanded, that it be no otherwiſe levied than in natura; and in virtue of an ukaſe of the 23d of June 1794, all private copper-works that are erected with the aſſiſtance of the crown-caiſſe, or have received of the crown lands, foreſt, or boors, over and above that tenth, ten pound from every hundred — but all the reſt, erected without this aſſiſtance, pay ſtill five pood more. The former therefore pay 20, and the latter 15 per cent of the copper they obtain to the crown. 2. Of the remaining copper, after deducting the tenths, (now the 15th or the 20th,) one half muſt be delivered to the crown at 5½ rubles. Formerly two thirds were ſubject to this ſale, which is of the nature of a tax. Catharine the ſecond, by the ukaſe of June 28, 1780, lowered this legal delivery to the half, and in the manifeſto for inſtituting the imperial lombard, all private proprietors of works in being or to be erected, who obtained a greater quantity than they had hitherto done, are entirely diſcharged from this obligation. The other half may be freely ſold or ſhipped outwards on paying certain ſtated low duties. The crown itſelf at preſent pays for the pood of copper, when brought by voluntary contract, ten rubles. 3. On

* By the Germans called garkupfer.

every furnace for ſmelting copper was paid a tax of five rubles per annum; but by the ſaid ukaſe of June 23, 1794, this tax is doubled, accordingly each pays now 10 rubles. — Of the IRON: 1. Inſtead of the tenths, on each pood of raw iron was paid 4 kopeeks. Since the 23d of June 1794, all iron-works erected with the aſſiſtance of the crown pay another 4 kopeeks, and thoſe without that aſſiſtance 2 kopeeks; the former pay now therefore for every pood of raw iron 8, the latter 6 kopeeks. 2. For every forge the owner pays the crown yearly 200 rubles. Till the 23d of June 1794 only 100 rubles; at that time this tax was doubled. 3. The duty on exportation on every berkovetch (10 pood) of bar-iron is 37 kopeeks. — The former obligation on every private proprietor to deliver iron and warlike ſtores to the admiralty and artillery at a price fixed in the years 1715 and 1728, was aboliſhed in the year 1779, and all other metals and minerals are entirely free from taxes.

Conſiderable as theſe taxes are, yet the PROFITS ariſing from mining are very great, whereby numbers of proprietors have riſen from a very low condition to extremely great wealth. In the uralian mountains, for inſtance, the ordinary bar-iron at moſt of the private works is below 40, at many of them between 40 and 50, and only at very few above 50 kopeeks. In ſhort, copper and iron mines are ſo profitable, that every attention is paid to procuring the metals, and the manufacturing them

them is entirely neglected. — Of the iron, indeed, a conſiderable quantity is diſpoſed of in the country, but by far the greater part is ſent abroad, and to that end conveyed to St. Peterſburg, which, even from the Ural, notwithſtanding the great diſtance, is done throughout by water. The expence of this tranſport, which is greatly favoured by the rivers and lakes of the uralian territory, from the works to the reſidence, comes to, for the greater part, 15 to 20, for ſome above 20, for a very ſmall proportion as far as 25 kopeeks. With the majority of the uralian iron-works, therefore, the pood of iron, quite to the delivery of it at St. Peterſburg, comes only to 55, or at moſt to 60 kopeeks; but the ſale-price has of late years been 110 to 120 kopeeks. — The remainder of the copper for ſale is moſtly diſpoſed of at Moſco, Makarief, and St. Peterſburg, and generally conſumed in the country. The market-price of this metal was formerly, even at Ekatarinenburg, nine rubles the pood; it afterwards fell ſomewhat, but at preſent, on the export of it being allowed, is riſen again.

It has been already ſaid, that the private owners of mines are moſtly nobles, but partly are likewiſe burghers and merchants. The richeſt copper-mines belong at preſent, ſince the family Pochadyæſchin ſold theirs to the bank, to the families Turtſchaninof, Lughinin, Stroganof, &c. and the largeſt iron-works to the families Demidof, Yakovlef, Stroganof, Tverdiſchef, Lazaref, Lughinin, and Bataſchef. The family Stroganof poſſeſſes in

the government of Perme alone 540,000 ſquare verſts of land, and had on it at the reviſion before the laſt 83,453 vaſſals of the male ſex. Of the private works and villages there are many, which, in magnitude, in neatneſs of buildings, and in the number of their inhabitants, exceed moſt of the towns of this government *.

In the MANAGEMENT of the private mine-works, in purſuance of the aforeſaid ordinance of June 28, 1782, no finance-office, nor any court of judicature, is allowed to intermeddle; but the regulation and conduct of the works are left entirely to the proprietor, who generally truſts the management of them to a prikaſchtſchik or clerk with full powers, for which office ſome clever fellow is choſen from their vaſſals, who underſtands the great arts of reading, writing, and caſting accounts: many purpoſely chooſe perſons of the old faith, a ſort of ſectaries, called by the orthodox raſkolniki or heretics †, as they are not (ſo much) addicted to drunkenneſs, and ſpy out the faults of the orthodox with Argus-eyes. One of theſe men, for a ſalary of forty to a hundred rubles, with ſome domeſtic advantages, ſuperintends mines and founderies, frequently lying very diſtant aſunder, conducts the buſineſs of the compting-houſe, the accounts of which are very intricate, and has the

* Beſchreibung der ſtatthalterſch. Perme, in Hermann's beytrægen, tom. iii. p. 55.

† For ſome account of theſe people ſee the life of Catharine II. vol. ii. p. 196, 4th edit.

direction

direction of ſome thouſand vaſſals and free workmen, looks after the miners and the ſmelters, carries on law-ſuits concerning bounds and mines, provides for the taxes due to the crown, procures the cheapeſt poſſible tranſport, and makes his maſter rich. Though at ſome private works likewiſe free people, ſuch as merchants or diſmiſſed officers, are employed in this ſervice, yet it is with the generality only a vaſſal prikaſchtſchik, who, with a few aſſiſtants, directs large concerns of this nature, the products whereof, as with thoſe of Demidof and Yakovlef, amount to half a million of money, and for the management of which in other countries a whole board of commiſſioners, with counſellors, aſſeſſors, and ſecretaries, would be appointed *.

The works at the mines of the crown as well as at thoſe belonging to private perſons are partly carried on by maſter-workmen, partly by inrolled boors, partly by vaſſals, and laſtly alſo by free workmen. The claſs of maſter workmen has ſprung from the crown-boors and the people deſigned for recruits, which have been aſſigned to the works at the mines. They belong, with their whole poſterity for ever, to the works, whether belonging to the crown or to private owners, to which they are inrolled, and are entirely maintained at the expence of the crown or the proprietor of the works. For deſcribing ſomewhat more diſtinctly

* Herrmann's beſchreibung des uraliſch. erzgeb. tom. ii. p. 228.

the fate and performances of this claſs of men, we will borrow a few particulars from the account which Renovantz * has given of thoſe at the kolhyvan mines.

The workmen in the mines and the founderies are indeed all called maſter-people, but they diſtinguiſh themſelves into maſters, under-maſters, apprentices, delvers, ſervants, carriers, waſhers, and ſeparators. In proportion to their ability their wages are regulated, which proceed from 15 to upwards of 30 rubles per annum. The proviſions which they receive from the magazines are deducted from this pay.

The number of the maſter-people belonging to the kolhyvan eſtabliſhment is 4186 men, but of whom a great part muſt be deducted for ſuperannuated and incapable, for patients and attendants at the hoſpitals, for overſeers of the mines and kantoras, for denſchtſchiki to the officers, &c. and are annually diminiſhed by conſiderable deſertions. From the remainder are taken all the people wanted for the ſeveral collateral employments about the works, ſo that for the proper purpoſe of mining a number is left proportionately but ſmall; at the Schlangenberg, for inſtance, not amounting to more than about 600 men. — The children of the workmen and ſoldiers, to the number of 1029, are partly inſtructed in the ſchools, or if they be grown up,

* Nachrichten von den altaiſchen gebirgen, p. 174.

put

put to the laboratories. The increaſe of the workmen is according to the recruitings; but as all theſe works in the mines and at the founderies are prejudicial to the health and ſhorten life, the deficiencies are ſeldom in this way ſupplied. The real increaſe is made by the children of the labourers, of whom a boy of fourteen will do more than a full-grown fellow from the boors. — The conſtitution, the treatment, and the puniſhments of the people belonging to the mines are almoſt entirely military. They advance in rank like the ſubaltern officers in the army; their offences are tried by military law, at which when neceſſary even mine-officers are preſent.

As in the Altay there are neither markets for proviſions nor tradeſmen and mechanics; the workman at the mines muſt provide himſelf all his neceſſaries; and here the numerous court and church holidays ſtand him in good ſtead, on which he is freed from all public labour. His firſt care is to have a ſmall houſe of his own, to which he lays out a garden and keeps a cow-yard to ſecure him a maintenance. If new ſhafts are opened in ſeveral places, at firſt he makes ſhift for ſome time with a hovel compoſed of a few ſtakes, and covered with ſods, or he digs himſelf a habitation and a baking-oven in the earth. As ſoon as the works afford ſome proſpect of ſucceſs, he builds himſelf a regular houſe on the ſpot, whither he takes with him his cattle and his little property. Thus it not

unfrequently happens, that in the thickeſt and moſt inacceſſible foreſts, or in wild and dreary ſteppes, in a few years whole ſtreets and villages ariſe. If, after trial, the projected works be abandoned, the labourer loſes nothing, as he eaſily ſells his houſe to a countryman, who ſets it in another place, ſometimes twenty or thirty verſts diſtant.

The people of the altayan mines and founderies, particularly ſuch as are born of them, are dexterous and clever, and fit for any thing. Many of them, without any tuition, very ſoon and ſucceſsfully apply to arts and mechanics. There are boys among them who copy the fineſt drawings; common ſmiths make large clocks which ſtrike the hours; and wherever any opportunity preſents itſelf of earning a ſmall matter, the ſpirit of induſtry is immediately rouſed, which their hard and toilſome deſtiny ſeems rather to unfold than to ſuppreſs. Almoſt every miner of the Altay is moreover an excellent hunter, an expert horſeman, and in caſe of neceſſity certainly the beſt ſoldier.

Something remains to be ſaid of the BOORS ENROLLED TO THE WORKS, whom we have had ſo frequent occaſion to mention. The firſt and the generality of the mines were originally opened on crown lands, and—excepting the crown—moſtly by perſons not belonging to the nobility, and conſequently not capable of poſſeſſing vaſſals. In order therefore to remedy this want of workmen, which was at that time the more urgent as at firſt no free

workmen

workmen were to be had for money, and in order to raiſe the art of mining, the ſovereign ordained that the crown-boors in the neighbourhood of the works ſhould work at them for their head-money, which the owners were obliged to pay in their ſtead. Moſt of the private undertakings that had ſuch boors in their environs, obtained therefore a ſufficient number of workmen, who, till the year 1779, might be employed at all the works, and at every ſeaſon of the year.

The indeterminate manner in which this grant was made gave riſe to a two-fold abuſe. The proprietors not only made very free uſe of the privilege to the detriment of the crown, of enrolling the boors, but ſuch continued and hard labours were arbitrarily exacted of theſe poor people, that they were at times even driven by deſperation to rebel againſt their tyrannical maſters. When Catharine the ſecond aſcended the throne, ſhe immediately adopted meaſures for checking this flagrant miſdemeanor. In the year 1766 ſhe appointed a commiſſion, compoſed of the chief officers of ſtate, to examine into the matter and to lay before her their propoſals for an alteration; but, as there was no hope of a termination to this weighty concern, it being delayed by every kind of difficulty that could be thrown in the way, the empreſs iſſued ſome ſpecial precepts from her own hand, whereby the groſſeſt of the abuſes were remedied for the preſent, till at laſt the laudable ordinance of the

23d of May 1779, appeared, by which the fate of the enrolled boors was fixed on a humane and equitable footing. Not only their wages were raiſed, but alſo the time aſcertained when and how long they ſhould work, and the nature of their work was accurately ſtated with penalties annexed. Theſe boors are therefore now obliged only to do five kinds of buſineſs, whereby every man muſt yearly earn 170 kopeeks, according to the ſtated price for each day's work, to which at moſt four weeks were requiſite in the whole year, and with which therefore he had time enough remaining for managing his huſbandry and his domeſtic concerns.

Where the nobleman has mines on his own ground he muſt carry on all the works by his VASSALS; but if his works be on land not his own, he may, together with theſe, employ the boors aſſigned him. — The VOLUNTARY workmen generally compoſe the leaſt proportion; and, if the works depended on theſe alone, they would ſoon grow cold. Yet at many of the copper and iron-works in the Ural the greater part of the ore is brought out by hired carters, becauſe the enrolled boors can earn their head-money ſimply by cutting wood and carrying charcoal. — As in the neighbourhood of theſe mines all the crown-boors already belong in one way or another to the works, ſo it is now almoſt impoſſible for any one who does not poſſeſs vaſſals, to proſecute mining with advantage, as it is in moſt places extremely difficult,

cult, even for the beſt wages, to get a ſufficient number of voluntary and good workmen; and becauſe on the other hand a large capital is wanted, which is ſeldom within the compaſs of one individual. Theſe may probably be the reaſons, that ſince the manifeſto of the year 1782, by which the privileges of the miners were ſo ſecured and enlarged not one new mine adventure has appeared *.

As we have endeavoured to give an account of the ruſſian mines only in a ſtatiſtical regard, it is beyond the limits of our plan to deſcribe the manipulation, the ſmelting-proceſs, or in general the technological operations of them; which moreover would be very unintereſting to the generality of readers. We ſhall therefore conclude this head with ſome general political remarks on the moſt remarkable products of the mineral kingdom, ſo far as they, not merely exiſt, but alſo are ſought out and employed, at the ſame time endeavouring to ſtate the value of their annual produce, and the export and import of them.

Of GOLD, as has been ſhewn, Ruſſia obtains annually about 40, and of SILVER near 1300 pood, which, according to the prices of the year 1789, of both amounts to the value of 1,729,000 rubles. Theſe metals are brought to St. Peterſburg and there moſtly coined, having been previ-

* Hermann's beſchreibung des uraliſchen erzgebirges, tom. ii. p. 237—239.

ouſly ſeparated at the imperial office for that purpoſe, and brought to the perfect ſtandard. — Beſides the gold and ſilver got from the mines, Ruſſia obtains annually a very conſiderable quantity of theſe noble metals by the overbalance of her commerce, as alſo from the duties which in part muſt be paid in foreign coin *.

Of COPPER is annually gained about 200,000 pood, the value of which muſt be eſtimated at leaſt at two millions of rubles. The copper which the crown receives as well from its mines as by the taxes from private proprietors, is all coined. The export of this metal is inconſiderable (in the year 1793 it amounted, from all the ſeaports of the empire only to 187 pood, the value of which was returned to the cuſtom-houſe at 2910 rubles); nay, Ruſſia even buys copper wares and verdigris †.

So much the more important as an article of

* According to Tſchulkof's ſtatements, gold and ſilver in ſpecie, either in foreign monies, or uncoined, were imported, in eleven years, from

	Rubles.
1758 to 1768	19,219,566
1773	1,256,406
1774	1,082,533
1775	1,805,395
1777	1,822,749

therefore annually juſt as much as was obtained from the mines.

† Of both, for inſtance, in the year 1793 were imported at St. Peterſburg to the value of above 42,000 rubles. In the year 1768 Ruſſia ſold to the amount of 53,000 rubles in copper.

foreign

foreign commerce is the IRON, of which annually about five millions of pood are obtained; the value of which in money, however, on account of the continual riſing of the price, cannot be accurately aſcertained. Beſides the prodigious quantity conſumed in the empire itſelf, where, as may eaſily be imagined, it is uſed without much regard to frugality, Ruſſia exports every year ſo great a quantity of this metal, that, next to hemp, it forms the moſt important article of exportation. In the year 1793 this export in bar and ſort-iron, as well as in caſt-iron goods, amounted to 3,033,249 pood, or in value of money as given in the cuſtom-houſe books, 5,204,125 rubles *.

LEAD is found in all the mines, particularly in thoſe of Nertſchinſk and the Altay; though but little attention has hitherto been paid to the getting of this uſeful metal: conſequently Ruſſia for the moſt part fetches what ſhe wants of it from the foreigner. Of the galena got at the nertſchinſkian mines about 30,000 pood is annually revived to lead, which is moſtly ſent off to Barnaul; of the remaining galena millions of poods are left to lie unuſed. Some methods, however, are at preſent adopted for ſmelting a conſiderable quantity

* Notwithſtanding this great wealth in iron, Ruſſia buys annually a conſiderable quantity of this wrought metal. In the forementioned year were imported at St. Peterſburg, in various ſorts of veſſels and utenſils, lackered iron ware, tin plates, plates, ſcythes, &c. to the value of 196,000 rubles whereof 101,000 rubles was for the article of ſcythes alone.

of

of it to lead, and to deliver it at St. Peterſburg for general uſe. In the year 1793 the importation of lead at that port was 36,000 pood, which, according to the cuſtom-houſe regiſters, was in value 125,000 rubles. — TIN has as yet been nowhere diſcovered: in the year 1793 to the amount of 167,000 rubles were imported of it at St. Peterſburg.

The SEMI-METALS have not in general been at all produced. Arſenical calx is found indeed in all the mineral mountains of Ruſſia, but in no conſiderable quantity. Antimony is pretty plentiful in the nertſchinſkian mines, and zinc-ore both in them and the altayan. Quickſilver has been hitherto diſcovered only in two places, in the nertſchinſkian mountains and towards Okhotſk. Nickel, cobalt, and biſmuth, are likewiſe but ſparingly found in the ſaid mountains. — Of all theſe friable metals Ruſſia annually purchaſes greater or leſs quantities. The moſt conſiderable importation is that of zinc and quickſilver. The former in 1793 amounted at St. Peterſburg alone to 230,000, and the latter, including the zinnober, to 44,000 rubles.

In noble, precious, and durable KINDS OF STONE, either ſubſervient to the fine arts, or uſed as building materials, for the decoration of houſes and for public monuments, Ruſſia likewiſe has very valuable ſtores. Porphyry, jaſper, agate, chalcedony, carnelian, onyx, mountain cryſtal, beryl, garnet, lapis lazuli, alabaſter, in extraordinary quantities, in the greateſt varieties, and of the moſt

moſt variegated kinds and colours. Alſo marble in abundance; the fineſt white, equal to the parian and the karrara, is found in the uralian quarries. There is alſo yellow, grey, and cloudy: moſt of the marble now worked in St. Peterſburg in ſuch enormous maſſes and quantities, comes from the governments of Vyborg and Olonetz. There too, as well as in moſt of the other mountains, is found granite, from the fineſt to the coarſeſt granulation, and is much employed as an excellent material for building. For the uſe of the glaſs-houſes and porcelain manufactories there is almoſt every where QUARTZ enough. Moſt of the ARGILLACEOUS EARTHS, neceſſary in the manufactories, Ruſſia poſſeſſes in great quantities; but they are ſcarcely anywhere got out. TURF and COALS are found in ſome parts, and in ſeveral diſtricts might ſupply the want of firewood. SULPHUR is in ſufficient abundance for rendering the importation of it unneceſſary. Of SALTS the empire contains ineſtimable ſtores. Without reckoning the culinary ſalt, which we are on the point of mentioning circumſtantially, GLAUBER and BITTER SALTS, ALLUM, SAL AMMONIAC, VITRIOL, SALTPETRE, NATRON are found partly in exceeding great quantities. Of curious PETRIFACTIONS and MINERAL WATERS, neither is Ruſſia in any want *. Not-

* Brunnich's mineralogy, with Georgi's additions. Falk's beytræge, tom. ii. Hermann's ſtatiſt. ſchilder. p. 181—217. Guldenſtædt's akadem. rede, &c. 101—118.

withſtanding

withſtanding this extraordinary wealth in mineral productions of all kinds, the import of them however forms a very conſiderable head in the liſt of public expenditure; and though the mineral treaſures of Ruſſia are not by far ſufficiently known and explored, it is certain that of ſuch as are known much the greater part are only employed in a very imperfect manner.

This is manifeſt from the prodigious importation of mineral articles, which moſtly ſubſiſt in the empire even in abundance. In the year 1793 the following articles were brought into the port of St. Peterſburg: allum, ſal ammoniac, vitriol, ſaltpetre, ſulphur, precious ſtones, agate, cryſtal, topaz, fieldſtones, millſtones, whetſtones, and grindſtones, alabaſter, gypſum, tripoli, emery, porcelain, ſtoneware of clay and earth, crucibles and matrices, tiles and pantiles, flints, coals, mineral-waters, and minerals — to the value of 340,000 rubles. In which the numerous glaſs-wares and other articles are not included: the value of precious ſtones imported cannot be aſcertained, as they are duty-free.

SECTION XI.

Salt-works.

SALT, as every one knows, is become ſo general and indiſpenſable a neceſſary with moſt of the nations of the earth, as to form at preſent one of the

weightieſt objects of political œconomy. The demands for it are the more urgent and great in a country in proportion as the population and the practice of huſbandry increaſe, the more the ſalt-ſprings, ſalt-lakes, and layers of rock-ſalt are exhauſted, the ſcarcer the wood and other materials for firing become, and as the imported foreign ſalt riſes in price. Thus in Ruſſia, which annually conſumes twelve millions of poods of ſalt, and where the increaſe of the population keeps equal pace with the diſſemination of uſeful trades and with the improvement of agriculture, the obtaining of this mineral is an extremely important object of public concern, though that operation here be ſo liberally encouraged by nature. This country is ſo happy as to poſſeſs within its circumference ſuch a number of rich and productive ſalt-works, that its inhabitants are at preſent able to ſupply themſelves ſufficiently, and at a price ſo low as is unexampled in other countries. The ſalt is got here partly from ſalt-mines, partly from ſalt-lakes where it cryſtallizes ſpontaneouſly, and partly from ſalt-ſprings, by evaporating the brine by boiling.

The richeſt couches of ROCK-SALT within the ruſſian territory are about the Ilek in the diſtrict of Ufa, on the Volga in the government of Caucaſus and on the Vilui in the government of Irkutſk; but as yet only the ſalt of the Ilek has been broken. In the neighbourhood of the ruſſian borders, as in Caucaſus and in the kirghiſian ſteppe

much rock-ſalt is likewiſe found. The ſalt-mine of the Ilek lies ſixty verſts from Orenburg. From 1765 to 1787, (excluſive of the year 1775, becauſe in it none was dug on account of the diſturbances there,) therefore in 22 years, 9,770,794 pood were obtained from it: namely, from 1765 to 1774, in ten years, 2,901,694 pood; from 1776 to 1781, ſix years, 1,987,457 pood; and from 1782 to 1787, ſix years, 4,881,643 pood.

The ruſſian empire, farther, comprehends a great number of rich SALT-LAKES, where the culinary ſalt cryſtallizes of itſelf without the aſſiſtance of art, forms a thick cruſt, and is only broken away *. This lake-ſalt † is, however, never entirely pure, but has always a mixture of bitter ſalt, natron, or

* The cryſtals of common ſalt are right-angled ſix-ſided ſolids, and are uſually ſaid to be cubes. Theſe form at the ſurface, where the evaporation is the greateſt; and they float by virtue of the repulſive power of their dry upper ſurfaces, which diſplaces a quantity of the ſurrounding water: a circumſtance common to all ſuch ſmall bodies as are not eaſily wetted. When the cryſtal becomes too large to be ſuſpended in this way it ſinks. If two floating cryſtals come ſo near each other as that the hollow ſpaces may communicate, they fall together into one cavity at the ſurface, without ſinking, and the ſucceſſive appoſition of other cryſtals often produces a curious hollow pyramid, which is ſquare, becauſe the figure of the cryſtals themſelves occaſions them to apply to each other only in the poſition required to produce ſuch a ſolid. Nicholſon's firſt principles of chemiſtry, p. 172.

† In ruſs. buſun.

earthy

earthy common ſalt. Among the largeſt and moſt productive ſalt-lakes are: the Elton, in the government of Saratof, the ſalt-lakes near Aſtrakhan, particularly the inderſkian, and the ſalt-lakes in the government of Kolhyvan. The Elton produced only in the ſix years from 1782 to 1787, 33,549,939 pood, therefore yearly on an average above 5½ millions of poods. — The ſalt-lakes of Aſtrakhan yielded from 1765 to 1774, in ten years, 6,766,097 pood. The inderſkian ſalt-lake is granted to the uralian kozaks for their free uſe, therefore the quantity it yields cannot be accurately aſcertained. — From the kolhyvanian lakes, from 1777 to 1786, in ten years, 4,856,312 pood were obtained. — Among the other ſalt-lakes, the tauridan, caucaſean, and irkutſkian, are particularly productive. The firſt yield annually about three millions of poods.

The bay-ſalt is either boiled from the brine of ſalt-ſprings or from ſea-water*. The moſt numerous

* The whole art of extracting ſalt from waters which contain it, conſiſts in evaporating the water in the cheapeſt and moſt convenient manner. In England, a brine compoſed of ſea-water, with the addition of rock-ſalt, is evaporated in large ſhallow iron boilers; and the cryſtals of ſalt are taken out in baſkets. In Ruſſia, and probably in other northern countries, the ſea-water is expoſed to freeze; and the ice, which is almoſt entirely freſh, being taken out, the remaining brine is much ſtronger, and is evaporated by boiling. In the ſouthetn parts of Europe the ſalt makers take advantage

merous and moſt productive SALT-SPRINGS are, on the Kama in the diſtrict of Solikamſk, on the Lovat near Staraya-Roſſa, on the Donetz near Bachmut and Tor, on the Volga near Totma and Balachna, in Taurida and on the iſle of Taman,

---

of ſpontaneous evaporation. A flat piece of ground near the ſea is choſen, and banked round, to prevent its being overflowed at high water. The ſpace within the banks is divided by low walls into ſeveral compartments, which ſucceſſively communicate with each other. At flood tide the firſt of theſe is filled with ſea-water; which, by remaining a certain time, depoſits its impurities, and loſes part of its aqueous fluid. The reſidue is then ſuffered to run into the next compartment; and the former is again filled as before. From the ſecond compartment, after a due time, the water is tranſferred into a third, which is lined with clay, well rammed, and levelled. At this period the evaporation is uſually brought to that degree, that a cruſt of ſalt is formed on the ſurface of the water, which the workmen break, and it immediately falls to the bottom. They continue to do this until the quantity is ſufficient to be raked out and dried in heaps. This is called bay ſalt. — In ſome parts of France, and alſo on the coaſts of China, they waſh the dried ſands of the ſea with a ſmall proportion of water, and evaporate this brine in leaden boilers. — At ſeveral places in Germany, and at Montmarot in France, the waters of ſalt-ſprings are pumped up to a large reſervoir, at the top of a building or ſhed; from which it drops or trickles through ſmall apertures upon boards covered with bruſh-wood. The large ſurface of the water thus expoſed to the air, cauſes a very conſiderable evaporation; and the brine is afterwards conveyed to the boilers for the perfect ſeparation of the ſalt. Nicholſon's firſt principles of chemiſtry, p. 170, & ſeq. 2d edit.

on

on the Dvina near Uſtiug, on the Angara near Irkutſk, and in other places. The moſt important ſalterns are thoſe in the diſtrict of Solikamſk in the government of Perme. Theſe from 1765 to 1774 yielded 25,897,815, and in the years 1784 and 1785, 11,361,477, therefore annually above 5½ millions of pood of ſalt; which reckoning by the market price the pood at 35 kopeeks, produces a value of nearly two millions of rubles. The permian ſalt-works belong in part to the crown, but moſtly to private owners, and principally to the family Stroganof; in the years 1784 and 1785 the produce from the crown ſalt-works was 2,746,320, and that from the private ſalterns 8,615,157 pood. The brine here, which unprepared contains from 10 to 16 ſolotniks of ſalt in the pound, is boiled juſt as it comes from the ſpring, without any kind of preparation whatever; ſome few works excepted, in which of late years ſeveral improvements have been made. The keeping of a pan, which on an average produces from 40 to 50,000 pood of ſalt, coſts at the crown-ſalterns, yearly, with all requiſites, including the ſalaries of the officers, 2915 rubles 39¼ kopeeks; thus, the pood of ſalt ſtands the crown in 5¼ to 6 kopeeks. The permian ſalt is tranſported into twelve different governments of the empire, and to this end put on board large flat-bottomed veſſels, which, without having a ſingle iron nail to hold them together, are able to convey from 40

to 90,000 pood of ſalt*. Theſe veſſels go down the Kama as far as Laiſchova, and then up the Volga to Niſhnei-Novgorod, where the principal depoſit is kept, and whence it is farther conveyed partly by land and partly by water†.

The ſalt-works at Staraya-Roſſa in the government of Novgorod, from 1777 to 1787, in eleven years, produced 1,526,778 pood. The conſtitution of them was uncommonly improved by the

* The expences attending all the permian ſalt-works belonging to the crown, are, at preſent, for

Wood - - - - - - - - -	about	27,720 rubles.
Materials, implements, horſes - -		16,000
Salaries and wages - - - - -		13,900
Conſtruction of the tranſport veſſels, with all neceſſaries - - - - -		31,442
Coſt of the tranſport - - - - -		53,658
Total		142,720

It is reckoned, upon an average, that at preſent a pood of ſalt coſts the crown on the ſpot 5¼ and at Niſhnei-Novgorod 11 kopeeks. The profit which the crown, after deducting all expences, makes on an average, may amount on its own ſalt to about 15, and on the ſalt of private owners to about 4 kopeeks on the pood. By this calculation the crown in the years 1784 and 1785, taken together gained from the permian ſalt-works,

On its own ſalt - - - - -	311,948 rubles.
On the ſalt of private owners -	344,606
Total	656,554

† Herrmann's beſchreibung des uraliſchen erzgebirges, tom. ii. p. 143—224.

late

late lieutenant-general Baur, in purſuance of the advice of M. Cancrin, who was afterwards made director of thoſe works. The brine here ſprings from various marſhes, is moſtly only one ounce and a quarter, and is graduated to eight ounces. This evaporation houſe or gradir-work, as it is here called, was lately the only one in all Ruſſia; but theſe improvements have already given riſe to ſome beneficial alterations at the permian ſalt-works. The ovens and ſeething-houſes are alſo conſtructed in the manner practiſed in moſt parts of Germany *.

The other ſalterns in the governments of Vologda, Koſtroma, Viætka, Niſhnei-Novgorod, Irkutſk, &c. likewiſe produce annually a conſiderable quantity of ſalt. — SEA-SALT is indeed found in all the ſeas that ſurround the ruſſian empire (the Caſpian excepted, which is barely brackiſh); but only near Archangel and Kamtſhatka is the ſea-water boiled to this purpoſe. The ſalt-works of Archangel produced yearly about 150 to 200,000 pood.

From 1765 to 1777, by an account delivered under imperial authority, from the magazines of the crown alone 81,046,370 pood 37¼ pound of ſalt were ſold yearly, therefore on an average, above 8 millions of pood. As ſince the laſt-men-

* Herrmann's beſchreibung des uraliſchen erzgebirges, tom. ii. p. 199.

tioned year the conſumption has very much riſen ſeveral new ſalt-works have been ſet up and others enlarged, and as the krimean and the inderſkian ſalt are not included in the above ſtatement, we may fairly admit at leaſt twelve millions of pood as the annual product and conſumption in the empire. The pood of ſalt is everywhere ſold at a ſtated moderate price of 35 kopeeks; conſequently, this mineral forms an object of 4,200,000 rubles, of which however the net profit to the crown is at moſt only two millions.

Notwithſtanding the great ſtore of ſalt poſſeſſed by the ruſſian empire in its inexhauſtible ſalt-mines, lakes, and ſprings, the quantity hitherto obtained is not ſufficient for the ſupply of all the provinces, therefore foreign ſalt to a very conſiderable amount is brought every year into the livonian and finniſh harbours; an import, which according to Guldenſtædt's ſtatement in the year 1768, came to 492,000 rubles. On the other hand the tauridan ports ſhipped off in the year 1793 to the value of 23,000 rubles in krimean ſalt. So conſiderable an over-balance of the import, and the daily increaſing demands, put it beyond all doubt, that the beſt management poſſible of the ſalt-works in being and the employment of the ſalt places as yet unoccupied, is one of the moſt important concerns of the internal œconomy of the empire. How much in this reſpect, notwithſtanding the preſent improved manage-

management and the alterations that have been here and there introduced in the method of procuring the ſalt, ſtill remains to be done and to be deſired, is apparent even from the foregoing contracted repreſentation. Many excellent ſalt ſources remain untouched in ſouthern Ruſſia, becauſe wood, in the diſtricts where they are, is ſcarce, and becauſe by a continual employment of the ſalt-pans, they would reaſonably apprehend a total deficiency. This evil might indeed enſue if we are to expect that all things will proceed as they have hitherto done; but if the foreſts were carefully managed according to the rules of art, if coals or ſedge were to be uſed inſtead of wood, if furnaces were to be built in the cottages of the workman, which would be fitter for keeping up and invigorating the fire, if the brine were not to be boiled as it comes out of the ſprings, but in the evaporating-houſes previouſly deprived of a part of the water, if this were done, certainly the want of wood in theſe parts would be no obſtacle. The great advantage of the evaporating-houſes is already confirmed in Staraya-Roſſa, by the moſt ſtriking experience, at thoſe works where they are erected by imperial command: theſe ſalt-works now annually produce 100 to 150,000 pood, where formerly ſcarcely 10,000 were extracted. This example, and perhaps likewiſe the adequate and luminous propoſals of the academician Lepekhin in the ſecond part of his travels, have indeed raiſed

raiſed a ſpirit of emulation among the proprietors of the permian ſalterns, which has hitherto been productive of ſeveral improvements; but at moſt of the other ſalt-works the better proceſſes formed upon the rules of art are not yet even known by name. In the ſouthern regions the effect of the evaporation would be beyond compariſon greater, as the air is here drier, the heat more intenſe, and the froſts in winter ſo ſlight that the evaporation would ever proceed in an uninterrupted courſe. It would here even be poſſible to obtain the ſpring-ſalt entirely without wood and without fire, if the brine, after the evaporation, were to be expoſed to the ſun and the wind in large open reſervoirs, as is done with the ſalt-waters on the coaſts of France. Even the cold, which in the northern provinces prevents the evaporation in winter, may ſerve to free the brine from a great part of the water if it were left to freeze in broad ſhallow vats placed in the open air.

Among the large quantities of rock-ſalt which have hitherto lain unbroken, at leaſt were ſo ſome few years ſince, is particularly to be remarked a mine in the ſteppe between the Volga and the Ural, which the Kalmuks call Tſchaptſchatſchi, and from which may be eaſily got as much ſalt as from the iletzkian mines, if the Kalmuks could be induced to conduct the tranſport from the ſpot itſelf to the Volga with camels. This road is very ſhort and richly provided with paſtures and

and water; but the conveyance of it on carriages would be extremely difficult on account of the deep ſands. The perfectly clean rock-ſalt yielded by the Tſchaptſchatſchi is far better adapted to the ſalting of fiſh and kaviar than the ſalt of the lakes about Aſtrakhan, which in a ſhort time corrupts theſe commodities. — Among the ſalt-lakes, on which the ſalt ſhoots into cryſtals by the heat of the ſun, and which lie chiefly near the Volga in the caucaſean government, that called the Bogdinſkoy, forty verſts from Tſchernoyyar, yields the beſt ſalt. For this reaſon therefore, as well as on account of its ſmall diſtance from the Volga, it ought to be at leaſt as much worked as the Elton, to which the preference has hitherto unjuſtly been given *.

One part of theſe beneficial ſuggeſtions is already put in practice ſince the ruſſian empire has been in poſſeſſion of a SALT-REGULATION, which is drawn up with ſo much legiſlative wiſdom that it may in general ſerve as a model for ſimilar objects. In purſuance of this regulation the finance-office muſt keep an account how much ſalt is procured and conſumed in each government; if it contain any ſalt-ſprings, lakes, or mines, hitherto not employed, muſt cauſe them to be examined by

* Guldenſtædt's akad. rede, &c. 111. Herrmann proceeds to more particular details on the improvement of the ſalterns in his Beſchreib. des ural. erzgeb. and Lepekhin in the ſecond part of his travels.

apothe-

apothecaries and chemiſts, and if the ſalt be found wholeſome, to inform the magiſtracy and the imperial high-treaſurer, how much, in what manner, and at what expence it may be produced and tranſported. If ſalt-places be anywhere found which have been formerly worked and afterwards abandoned, the finance-office is bound to inquire into the cauſes of this neglect, and inform themſelves of all the particulars. To facilitate this duty to the finance-offices, the regulation proceeds to give an exact liſt of all the ſalt-places at work in the year 1775, with the notification how much was ſold of each kind of ſalt from the crown-magazines from the year 1770 to 1775.

The finance-offices have the juriſdiction over all the ſalt-places and ſalterns belonging to the crown, but are not allowed in any way whatever to meddle with the management of private ſalt-works, which are again ſpecified in a miſſive from the ſenate. Every government has in each of its circles a ſalt-magazine, ſituated conveniently for tranſport and ſale; but in every government which has ſalt-works and obtains more ſalt than it wants for its own conſumption, are likewiſe ſtore-houſes, whence the governments aſſigned to it are to be ſupplied *. All theſe magazines muſt

* This diſtribution was a few years ago in the following order: 1. The governments of Vologda, Caucaſus, Irkutſk, Kolhyvan, Tobolſk, Ekatarinoſlaf, and Taurida ſupply themſelves with their own or neighbouring ſalt. 2. The governments

be conſtantly furniſhed with a ſtock of ſalt for two years; if beſides a ſurplus ſtill remain, it may be ſent over the borders into other governments, or even tranſported out of the empire.

An inſpector is appointed to every ſtore as well as to every circle-magazine who keeps the neceſſary accounts, receives the ſalt of the contractors and pays them for it, and conducts the ſale of the ſalt to the aſſigned diſtricts. The money obtained from the ſale he delivers weekly to the receiver-general. This money is divided into two ſums: the ſalt-capital, which is applied again to the procuring of the ſalt that is wanted; and the profit or ſurplus, which is deſtined to defray the expenditure, which, in purſuance of particular orders, is to be paid out of the ſalt-revenue.

---

vernments of Riga, Reval, and Vyborg import foreign ſalt. 3. The other governments obtain their ſalt in the following manner: The ſalt from the lake Elton is diſtributed in the governments of Penſa, Koſtroma, Tula, Tamboſ, Saratof, Yaroſlaf, Simbirſk, Kazan, Kharkof, Voronetch, Kurſk, Orel, Riæſan, and part of Kief, Tſchernigof, and Novgorod-Severſki, whither alſo at preſent a part of the tauri- ſalt comes. The permian ſalt goes into the governments of Moſco, St. Peterſburg, Tver, Novgorod, Perme, Viætka, Smolenſk, Polotſk, Kaluga, Pſcove, Vladimir, and Mohilef; and the iletzkian ſalt is allotted for the governments of Ufa, Niſhnei-Novgorod, and likewiſe a part of Kazan. The demand of the laſt 31 governments in 1783 and 1784 amounted to 19,719,939 pood. See Herrmann's ſtatiſt. ſchild. p. 334.

In-

In the governments where the crown has reſerved to itſelf the ſalt-trade, private perſons may not ſell their ſalt, except to the imperial magazines. — Any body may buy ſalt at the crown-magazines in large and ſmall quantities at the ſtated price of 35 kopeeks the pood, and ſell it again in retail. Whoever would buy more than ten pood muſt apply for it in writing, and whoever more than fifty pood muſt moreover declare before the magiſtrate that he is no ingroſſer.

We ſhall conclude this brief view of the ruſſian mines and ſalt-works with a few arguments which may make more evident the importance of the mineral production. Difficult and unauthenticated as the calculations may be which are made as the total product of all national occupations, ſo eaſy and certain is ſuch an account to be made concerning the mineral productions, as theſe are everywhere entruſted to an adminiſtration which accurately controls the annual amount of them. According to the facts we have adduced, it may be admitted that at preſent every year there is produced in the ruſſian empire of gold about 40 pood, of ſilver 1300, of lead 30,000, of copper 208,000, of iron 5,000,000, and of ſalt 12,000,000 pood; a quantity of mineral products, the value whereof in money may be eſtimated by the moſt moderate computation at 13 millions of rubles, and in which the precious ſtones, ſulphur, vitriol, and other collateral products of mining are not compriſed.

compriſed. Now adding to this the probable riſe in the price of mineral products ſince 1788, and attending at the ſame time to their preſent value, the ſaid ſum may without exaggeration be fixed at 15 millions of rubles; an annual profit ariſing from funds which, at the beginning of the eighteenth century, (a portion of ſalt excepted,) lay in the boſom of darkneſs and oblivion.

To deliver ſimilar tables of the produce of all the other branches of productive induſtry, is everywhere very difficult, and in Ruſſia almoſt impoſſible. Here only accounts of ſowing and reaping of the moſt important kinds of grain are delivered into the finance-offices, and even theſe are ſeldom complete and ſatisfactory enough for enabling us to draw ſafe reſults from them. The products of the chace, of the breeding of cattle, of the fiſhery, &c. cannot abſolutely be aſcertained with any probability. — Inſtead, therefore, of bewildering ourſelves in hypotheſes on the total amount of theſe objects, we will rather endeavour to calculate the VALUE OF THE SURPLUS WHICH THE PRODUCTIVE INDUSTRY in general, after deducting the home conſumption, HAS OBTAINED FOR COMMERCE. To aſſiſt us in this calculation the cuſtom-houſe regiſters afford us a baſis, which, if not completely ſatisfactory, yet at leaſt come very near the truth, and always deſerve, for want of other means, to be conſulted. According to the liſts of exports of 1793, which we have all

along followed in theſe ſections, the exports by ſea in that year, from all the ports of the empire, thoſe of the Caſpian excepted, amounted to, in products

	Rubles.
Of the CHACE, viz. ſkins and furs, caſtoreum, feathers, and down -	496,000
Of the FISHERY: iſinglaſs, kaviar, train-oil, fiſh, and morſe-teeth - -	762,000
Of the BREEDING OF CATTLE: tallow, hogs' briſtles, butter, ſheep's wool, dried fleſh, and tongues, horſe-hair and tails, live cattle -	5,276,000
Of AGRICULTURE: hemp, flax, grain, linſeed, and hemp-ſeed, hemp-ſeed-oil and linſeed-oil, tobacco, peas, and griſt, aniſe and cummin - -	16,138,000
Of HORTICULTURE - none -	
Of the VINEYARD - none -	
Of the FOREST-CULTURE: maſts, balks, deals and wood, pot-aſhes, mats, pitch, tar, and roſin - -	2,537,000
Of the BEE-HIVES: wax and honey -	384,000
Of the SILK-WORM - none -	
Of the MINES and SALT-WORKS: bar and caſt iron, copper, ſalt - -	5,230,000
Total in raw products of productive induſtry - - - - - - - - -	30,823,000

This, therefore, is about the capital with which the productive induſtry of the nation actually enriched the country in that year; and great as the ſum may appear, it is yet probably rated too low.

For, firſt, there are not in theſe ſtatements the exports by ſea from the harbours of the Caſpian, and what is more the whole of the exports by land, together with all the wrought products, as ſail-cloth, linen, tallow-candles, ſoap, &c.; and, beſides, the unavoidable incompleteneſs of the cuſtom houſe liſts muſt likewiſe be in favour of the exports. On comparing theſe circumſtances with the increaſing activity of the nation, and the extraordinary increaſe of the population by the late acquiſitions, it is more than probable that the value of that ſurplus is near upon fifty millions of rubles.

With this calculation, which preſents the thoughtful reader with abundant matter for reflection, we diſmiſs theſe objects of our view, in order to take into conſideration a new ſphere of ſocial activity. We have purſued the rude and ſimple employments of the ruſſian countryman through their ſeveral modifications while they could excite any humane and political intereſt in the reader; we will now proceed to trace the progreſs which IMPROVING INDUSTRY has made ſince Peter the great, and endeavour to mark the degree at which the uſeful arts arrived under the brilliant ſceptre of Catharine the ſecond*.

* Storch's hiſtoriſche-ſtatiſtiſches gemælde des ruſſiſchen reichs, tom. ii.

We will here juſt add a compreſſed abſtract from the memorable edict, referred to in p. 314 of this volume, by which the labours of the boors are aſcertained: I. The boors enregiſtered to the mines, as well thoſe without the juriſdiction of the crown as belonging to it, and to private proprietors, ſhall, as before, provide for the neceſſary labours at the mines: 1. the falling of timber for burning into charcoal; 2. the breaking up the coal-heaps, and carrying the coals to the works; 3. the chopping of wood for the fuſion of the metals; 4. the conveyance of the ore obtained to the works, as alſo the neceſſary ſands and fuſions; 5. the making and repairing of the dams, but only in caſes when they ſhall be damaged by inundations or fire. II. The boors are not bound to perform any other work whatever; yet neither is it forbidden them voluntarily to undertake it by agreement. III. They ſhall be taken on to work at the beginning of the winter-roads, and at the going off of the ſnow they ſhall be diſcharged, that they may attend to their agriculture. IV. A labourer with a horſe ſhall receive daily in ſummer 20, in winter 12 kopeeks: a labourer without horſe, in ſummer 10, in winter 8 kopeeks. At theſe wages they ſhall work out their head-money, amounting to 170 kopeeks; but to more labour they ſhall not be required or obliged; V.—VII. under penalties, to pay the labourer, above his daily wages, twice as much again. On account of the riſe in the price of labour, the

obligation on private owners to furniſh the admiralty and artillery with iron and ſtores at a ſtated price, was annulled. — The boors belonging to the crown-mines have always experienced a milder lot, as the crown is always intereſted in their preſervation. Among the crown-boors are alſo reckoned, Tartars, Baſchkirs, Vogules, &c. who inhabit a great part of the uralian mountains; but they are never annexed to the mine-works, except a few of the Baſchkirs, who have thus freed themſelves from kozak-ſervice*.

* Herrmann's beſchreib. des Urals, tom. ii. p. 238.

VIEW

OF THE

RUSSIAN EMPIRE.

BOOK XI.

IMPROVING INDUSTRY.

Manufactures and Trade.

In this branch, likewiſe, of political œconomy Ruſſia has made ſignal progreſs ſince the reforming reign of Peter the great; though it cannot be denied, that many trades are not ſufficiently complete and extended, and others not yet introduced. We will run over the moſt important in their natural order.

I. Oil-pressing. In various parts of the empire HEMP-SEED-OIL, LINSEED-OIL, HAZLE-NUT-OIL, CEDAR-NUT-OIL, and POPPY-OIL are prepared; of which the two firſt are made in the greateſt quantities. Hazle-nut-oil is chiefly made in the government of Kazan; cedar-nut-oil (though but little) in Siberia, and poppy-oil in many parts.

— In Yaroſlaf is a manufactory where juniper-oil is made, and in Tver and Vologda are two for the making of turpentine-oil and colifonium. About Simbirſk an oil is likewiſe preſſed from the fruit of the wild-almond ſhrub. — The hemp-ſeeds are for the moſt part preſſed by the boors themſelves, by means of little oil-mills, in which the ſeeds are cruſhed by a ſmall block-peſtle worked by a horſe. They are then put in a large pan into an heated oven, and, when they are thoroughly hot, the cruſhed ſeeds are laid between coarſe linens in the preſs. Five pood of ſeeds commonly yield one pood of oil. — The preparation of the linſeed-oil is performed in nearly the ſame manner, and affords almoſt a like quantity of oil. — In Ruſſia during the numerous faſts an incredibly great quantity of oil is conſumed; and there being a conſtant ſcarcity of fine oils in the country, and particularly of olive-oil, much of it is imported for the tables of people of condition: on the other hand 150,000 pood of hemp-oil is annually exported from St. Peterſburg alone.

II. TRAIN-OIL. Not to mention the various oils prepared as food by the Samoyedes, Oſtiaks, &c. on the coaſts of the Frozen-ocean, we will only take notice of the blubber of the morſes, which is boiled in great quantities on the coaſts of Archangel and Olonetz. It is commonly melted at home in copper kettles over the fire, and generally mixed with the fat of the ſeal and the beluga, and

and is ſold in Ruſſia under the name of vorvannoy ſalo. Several thouſand pood of this train-oil is every year exported by ſea from Archangel: in 1783 the quantity amounted to 40,248 pood. — On the Caſpian alſo much oil is made from the fat of the beluga; to this end the fat in particular, which in the milters lies thick about the milt and on the ſides, is ſcraped away with knives, collected into caſks, and again boiled and cleanſed. — This fat, when freſh, is well taſted, and may be uſed inſtead of butter and oil in faſting times.

III. ISINGLASS. The iſinglaſs is a product, the preparation whereof is almoſt peculiar to Ruſſia. It is made in all places where the large kinds of ſturgeon are caught; as, on the Dniepr, the Don, and eſpecially on the Caſpian; alſo on the Volga, the Ural, the Oby, and the Irtyſh. The iſinglaſs is prepared from the ſounds of theſe fiſh. On the Volga, that prepared from the ſturgeon is reckoned the beſt, next to that the beluga; but that from the ſevruga is mixed with the ſturgeon. But iſinglaſs is alſo prepared from ſterlets, ſhad, and barbel, though not ſo good. By ſome, however, the ſterlet-iſinglaſs is much eſteemed as glue; it is particularly tenacious, and is excellent in inlaid cabinet-work. All theſe kinds are watered while freſh, afterwards dried, the outer ſkin taken off, and the inner, gloſſy white, which is properly the glue, twiſted into various ſhapes, and ſo dried. The beſt is uſually rolled in little ringlets; the

ſecond ſort is laid together like leaves of a book, and the moſt ordinary is dried without any care. Farther down the Volga, likewiſe, a fine glue is boiled and caſt into various forms. On the Okka, where only the ſterlet is to be had, the ſounds are beat juſt as they are extracted from the fiſh, and dried into glue. The ſounds of the ſhad are pounded, and as the glue does not entirely diſſolve, it is ſtrained, and the filaments ſeparated from it. — On the river Ural, where the Kozaks prepare ichthyocolla or fiſh-glue in the greateſt quantities, the freſh ſounds are waſhed and laid out in the air to dry, ſo that the outer ſkin lies undermoſt, and the ſilver white inner ſkin upwards. By which means the latter is eaſily ſeparated, then put into a moiſt cloth, and forcibly kneaded with the hands. Then they are rolled one after another, and drawn, to the form of a ſnake or a heart, between three pegs, on a board ſtuck full of them; and, when they are ſomewhat dried in this ſituation, they are hung on lines in the ſhade till their moiſture is entirely gone. In Gurief a fine boiled fiſh-glue is prepared, perfectly tranſparent; having the colour of amber, and is caſt into ſlabs and plates. — On the Caſpian, about the Oby, the Irtyſh, &c. the fiſh-glue is made in much the ſame manner, only that there the ſounds are cut in ſtrips, and then rolled up. The Oſtiaks likewiſe boil their fiſh-glue in a kettle ſo long as till it boils over.

IV. PRE-

IV. PREPARATION OF KAVIAR. Kaviar, it is well known, is the prepared and ſalted roes, which are got in abundance from the large kinds of fiſh. The uralian Kozaks are particularly famous for making excellent kaviar. The beſt is obtained from the ſeveral kinds of ſturgeons, the ſevrugas, and the belugas. Moſt of the kaviar that is exported from Ruſſia goes to Italy. It happens ſome years that this export amounts to from 15,000 to 20,000 pood. It is prepared in three different ways. The worſt ſort is the common preſſed kaviar, payuſnaia ikra. To this end the roes are cleanſed of the coarſeſt filaments, ſalted with about two pound of ſalt to the pood, and then ſpread upon mats in the ſun to dry, after which it is trodden with the feet, the fellow who treads it having leathern ſtockings. A better ſort is that called the grained kaviar, ſerniſtaia ikra, but is too ſalt to be agreeable to every body. The cleanſed roes are ſalted in long troughs with eight or ten pound of ſalt to the pood, well mixed by ſhovelling it over and over, then put by portions into ſieves or thick nets ſtretched out, to drain and to coagulate, on which it is immediately preſſed into caſks. The cleaneſt and beſt ſort is that which to appearance conſiſts entirely of the eggs of the roes, and does not eaſily become fetid, termed from its preparation meſcheſchnaia ikra. The firſt thing done is to get ready a ſtrong brine; then long narrow bags of

ſtrong

ſtrong linen. Theſe are half filled with freſh roes, and filled to the top by pouring in the brine. When the brine has oozed through, the bags hanging on tranſverſe poles are powerfully wrung with the hands one after another; and the roes after drying for ten or twelve hours in the bags, are put into ſmall caſks. — From the Volga in winter large quantities of kaviar unſalted are ſent to all parts. The method here uſed in ſalting the roes, is by putting them, after being well cleanſed and ſalted, into ciſterns, with a number of holes in the bottom, through which they are ſet to drain by weights laid on at top, or are wrung in linen bags, then preſſed in caſks, with fiſh-fat poured over the ſurface, in order to keep it as much as poſſible from corruption. In like manner is the kaviar prepared in the other parts of the empire, where they have fiſh proper for that purpoſe. Among theſe are reckoned the white ſalmon and the pike, from the roes of which a reddiſh kind of kaviar, kraſſnaia ikra, is prepared.

V. SOAP-BOILING. So much ſoap is made in Ruſſia, that ſhe is able to export a conſiderable quantity. It is of two ſorts, white and black ſoap, that in which fiſh-fat and linſeed-oil are mingled, and what is called the dutch ſoap*.

* In Aſtrakhan they make ſoap of pot-aſhes and ſeal-blubber, which is ſaid to be excellent for wool, and is called tartarian ſoap. — Black or brown ſoap is, among others, made very good in Koſtroma.

The

The ſoap-works, which were formerly under the direction of the college of manufactures, are on the eſtates of count Scheremetof in Niſhney-Novgorod, thoſe of count Soltikof in the inſertſkian circle of the government of Kaluga, and two in Peterſburg belonging to the merchants Meyer and Tſchukin. But moſt of the ſoap is made by ruſſian burghers, merchants, and boors. The ſoaps of Koſtroma, Vologda, Kazan, Arſamas, Moſco, Tzaritzin, Murom*, &c. are in high eſteem.

VI. TALLOW-CHANDLERY. The inhabitants of Vologda, the moravian brethren near Tzaritzin and ſome other parts are in good repute for their fine tallow-candles. Great quantities of mould-candles are alſo made†; yet it cannot be affirmed, that this buſineſs is brought to any great perfec-

* Of the ſoap-boiling in Murom ſee Lepekhin's journal, tom. i. p. 25.; and of that in Kazan, Georgi's travels, tom. ii. p. 215.

† The whiteneſs of the candles made at Koſtroma proceeds from this, that it is chiefly the tallow of young cattle that is uſed for making them. The beſt turned wicks are procured from Holland. The tallow is ſhred and thrown into kettles of boiling water, for melting; then ſkimmed off with a ladle, and paſſed through a ſieve into a cooler filled with hot water. Ere it be cold it is poured into a clean trough. The unclean reſidue is pounded, melted again in a kettle of warm water, whence as much as is neceſſary is poured into the uſual copper-tinned moulds, and the proceſs is conducted in the ordinary way. The price of the beſt candles in Vologda is from 180 to 200 kopeeks the pood.

tion,

tion, as it is followed in moſt places by old women, who underſtand little about the matter, except juſt knowing how to clean the tallow. Notwithſtanding this, not leſs than twenty thouſand pood of tallow-candles are exported every year by ſea from St. Peterſburg: this article might be extended to a ſurpriſing degree; for the exports in raw tallow amount at preſent in value to far above a million of rubles.

VII. BREWERY. Though a great deal of beer is brewed in Ruſſia, yet every year upwards of a hundred thouſand rubles were paid during the late reign for engliſh ale and porter. It is true that in moſt parts only a ſad rye-beer is made, which almoſt every family brews at home. But likewiſe very fine BEER is brewed in St. Peterſburg, Moſco, Niſhney-Novgorod, Riga, and other places. That of Riga is ſaid to approach very near to the engliſh, and would certainly give ſatisfaction to the beer-drinkers, if attention were paid to a few ſeemingly little circumſtances, ſuch as, the quality of the caſks, the tranſport by ſea, the time ere it be tapped, &c. On the Okka, in the government of Niſhney-Novgorod, are ſeveral large brewhouſes, in which, with the water of that river, (for the Volga-water is unfit for that purpoſe,) an excellent light-brown, bright beer is brewed, little inferior to burton ale. One of theſe breweries, which Mr. Herrmann viſited, had ſeven large vats with iron hoops, each holding about

250

250 vedros; at one brewing they uſed one and a half chetverts of rye-malt, three chetverts of oat-malt, three chetverts of barley-malt, and one and a half pood of hops, and obtained from this wort 130 vedros of beer, each vedro reckoned at twelve engliſh bottles; which altogether ſold for about twenty rubles*. — We muſt here take notice of the brewing of ſome other liquors commonly drank in Ruſſia. The moſt common of all, and which every boor drinks daily as his ordinary houſhold beverage, is QUAS. Its preparation is as follows: to one chetverik (about thirty-five pound) of barley-malt they add two or three handfuls of rye-malt, and the ſame proportion of unbolted rye-meal, throw it all into earthen pans, pouring on it to the height of four inches boiling water, and ſtir it about till it reſembles thin porridge. On this they ſhake about two inches high of oat-huſks, and ſet the pans in the oven, where they

* On the Terek a ſort of beer is brewed, called terſkaia braga, by ſoaking millet in warm water, and when it is ſwoln like malt, it is bruiſed, boiled ſoft, and ſo poured upon malted-rye and barley. By the malt the brewage is tepid, and in this ſtate oats are added; it is left to ferment, and the huſks being ſtrained from the drink, it is fit for uſe. It is of good colour, always turbid, rather clammy, diſguſting to the taſte and ſmell, but very intoxicating. Falk. tom. i. p. 93. — The ruſſian braga is a beer made of wheat, as buſa is brewed from only millet; they are turbid, foaming, mount into the head, and are only drank by the common people.

remain twenty-four hours. Boiling water is now again poured on it; till it is full to the brim. This done, it is poured into wooden veſſels laid at bottom with ſtraw, having a plug on one ſide towards the bottom; lukewarm water is poured on it again, leaving it to ſtand, and laſtly it is drawn off into caſks. In every caſk a piece of coarſe rye-bread is put to acidulate the quas. The caſks are put in the cellar, and after twenty-four hours it is fit for drinking. From the foregoing quantities ſix or ſeven vedros of quas are obtained. It may be made of barley-malt alone; but the rye-meal is abſolutely neceſſary. — In moſt places, however, they do not go ſo circumſtantially to work about it: it is even cuſtomary to leave out the barley-malt, adding much more meal than rye-malt; to half a pood of meal only about two or three handfuls of malt. Inſtead of bread they put in ſome yeaſt of the former quas-making; ſome add likewiſe raiſins, by which the quas acquires a ſtrong foam. Numbers even make quas from rye-meal only. In all theſe modes of proceſs cold or tepid water is poured on the ingredients, the pans greaſed, and ſo ſet in the hot oven. — Another kind of quas, called KISSLY-SCHTSCHY, is made with boiling water and rye-meal alone, the mixture being violently and long ſtirred about in hot water, then cold water poured to it, the veſſel ſet by for fermentation, and then drawn off into bottles. This fine drink foams vehemently

vehemently and pearls with the ſolution of a gas, that ſparkles like ſeltzer water. The kiſly-ſchtſchy has ſome reſemblance with the Vienna hornerbier. — In ſome houſes they alſo take a ſmall quantity of honey, or raſpberries and cranberries and other fruits, for making quas, by which it acquires an agreeable ruby colour, and is extremely pleaſant to the taſte. — MEAD is likewiſe almoſt as much in requeſt as quas, and is one of the moſt ancient drinks in Ruſſia*. Mead is made of two kinds, white and red. For preparing the former, to two pood of white honey they pour five ankers of clear river water, and let it boil in a kettle, conſtantly ſkimming it and taking care that it do not boil over, till nearly three quarters of an anker are boiled away. This boiled honey-water is then ſtrained through a hand-ſieve or a piece of linen into a broad open veſſel, mixing with it a couple of ſpoonfuls of beer-lees, and a pound of white bread, kalatſch. After it has ſtood in this manner covered in a moderately warm place and fermented for thirty-ſix hours, this fermented honey-water or mead is poured through a ſieve or linen into a caſk, in which has been previouſly put a pound

* " Il eſt parlé de l'hydromel," ſays Leveſque, " dans la plus ancienne chronique ; c'eſt de l'hydromel qu' Olga enivra les principaux Drevliens. Elle tenoit les rênes du gouvernement de 945 juſqu'en 955. Hiſtoire de Ruſſie, tom. ii. p. 274.

of

of ſmall-ſhred iſinglaſs for clariſying it. — If they would give a great deal of ſpirit and a very excellent flavour to the mead, they fill it either with good wine lees, the beſt are of hungary wine, or add twelve bottles of a ſweet wine to it, and then hang in the caſk an oblong bag containing half a pound of coriander ſeeds, a quarter of a pound of cardamums, and three quarters of a pound of the roots of the iris, or fleur de lis. This done, the caſk is ſtopped cloſe, ſecuring the bung-hole with pitch or clay, and leaving it at leaſt twelve days to reſt, ere they drink of it.

For making red mead, to one pood of honey put about eight vedros of water, and boil them together till reduced to ſix vedros. When this is cold, preſs about half a chetverik of klukva * through a ſieve, and add this juice to the honey-water. After this three ſpoonfuls of yeaſt are put in; laſtly, a roll of clean ſand and iſinglaſs (about four ringlets of it) is thrown into the veſſel, to clarify the mead. To give it a fine flavour, they hang in it ſome cinnamon, cloves, and other ſpices. Ere it can be uſed it muſt ſtand at leaſt two weeks, and that in a cool place; otherwiſe it will fly all about.

This is the moſt uſual kind of red mead; but it is likewiſe made with various other kinds of berries, ex. gr. for preparing raſpberry-mead, put to

* Vaccinium oxycoccus, Cranberries.

one

one anker of water half a pood of honey, boil it, as ſaid above, leave it to ferment, and add about ſix pound of raſpberries. To make this mead more excellent, to this quantity pour four bottles of wine, and ſuſpend in the veſſel a bag with one and a half lote of cloves, three lote of cinnamon, and two lote of cardamums. In the ſame manner a cherry-mead is made, by proceeding as before, and inſtead of ſix pound of raſpberries, take from fifteen to eighteen pound of cherries with the ſtones broken.

Other ruſſian liquors are the berry wines which are made in the country in very many houſes, ſuch as cherry-wine, viſchnovka; raſpberry-wine, malinovka; bullace-wine, chernovka, and others. The mode of preparation is not everywhere alike. For making cherry-wine, about five or more vedros of ripe cherries of the ſteppes are cruſhed in a wooden tub, ſo that even the ſtones are broken. To each vedro add one, one and a half or two pound of honey, and a quarter or half a quart of good brandy or wine, and put in ſome yeaſt to make it ferment. Having properly fermented, it is cleared of the yeaſt and poured into kegs or bottles, then placed in a cool cellar. Wine and brandy are omitted by many houſewives, particularly when they have no need to be ſparing of their honey, by which the wine proves ſtrong enough. The ſame proceſs is uſed with other fruits. — Birch-wine, from the ſap of the birch-

tree, which with honey or ſugar ferments into wine, is made on ſeveral eſtates of the nobility in Livonia in ſuch perfection, that it can ſcarcely be diſtinguiſhed from champagne. The receipt for it is thus: To an anker of freſh birch-juice put ſeven pound of ſugar, and boil it together till the fourth part is boiled away and ſkimmed off. After the ſkum is taken off, and the water well boiled, put ſix lemons carefully peeled into a clean tub, pour ſix bottles of good french white wine, and then the boiling hot water upon it. After it is become barely tepid, add two ſpoonfuls of yeaſt, let it ſtand three or four days, and afterwards ſet the veſſel in the cellar. At the end of four weeks bottle it off, and in the courſe of a few days this fine ſparkling birch wine may be drank. — With birch-juice ſome likewiſe make beer, which is very ſpirituous, and by which a conſiderable ſaving is made in malt.

VIII. Distillery. This is one of the moſt extenſive, and the moſt beneficial of all trades to the crown. Brandy is the idol of the ruſſian populace, and the inexhauſtible ſource of revenue to the government. But whether it be equally beneficial to the health and morals of the people, is quite another queſtion. The brandy drank in the greateſt quantity in Ruſſia is diſtilled from corn; and we ſhall certainly not be miſtaken in our calculation, if we ſet down the whole conſumption of the empire at five millions of vedros.

For

For producing five millions of vedros, about one and a half million of chetverts, or ten million poods of corn are neceſſary. The ſale of it, as is well known, is a monopoly of the crown, and the right to diſtil it is confined (with the exception of a few privileged provinces) to the nobility who poſſeſs landed eſtates. The diſtricts that abound in corn are therefore thoſe which diſtil the moſt brandy, as, Little and White Ruſſia, Livonia, the governments of Kharkof, Voronetch, Orel, Kurſk, Kaluga, Tula, Tver, Kazan, Niſhney-Novgorod, Simbirſk, &c. — The proceſs in making the corn brandy, however, is not alike in different diſtricts. In Livonia the brandy is commonly diſtilled from barley-malt and rye, of each equal parts, or of rye, barley, and barley-malt. It is cuſtomary to put to a veſſel of 120 engliſh quarts 900 pounds of barley. The uſual way of diſtilling here is with the worm-pipe, and the ordinary fuel is turf. The proceſs is generally as follows: the meal is put in a vat, thoroughly ſoaked with boiling water, and beaten till not a particle of it is to be ſeen. In about two hours time it is beaten again but more violently, and then as much boiling water added as is neceſſary. Some of this is put into a tub, mixing with it cold water and yeaſt that it may ferment. When a ſouriſh ſmell is perceptible from the vat, cold water and the mixture from the tub are poured in, then covered cloſe, and all left to ferment,

till the ſcum upon it falls down, and all is clear at top. Then it is brought in the copper, and what is obtained from that is put into the rectifier. The ſign by which expert diſtillers know when the fermentation is complete is the ſtrong ſmell they perceive on opening a little the cover of the vat, and by a thin ſcum on the ſurface reſembling mouldineſs. The vat is cloſed not only with a lid, but alſo with wet cloths. As a proof that the brandy is of a proper ſtrength, not leſs than one half of it muſt burn away in a ſilver veſſel*. At a large diſtillery belonging to count Shuvalof on the river Uk in Siberia the proceſs is conducted in the following manner: the premiſes contain 106 coppers, 28 coolers, and 6 ſtills. To every cooler are reckoned ten chetverts of rye-malt, with a fifth or a ſeventh part of oats or barley. The coppers hold forty-two vedros, and are commonly all filled out of one cooler, ſo that the ſeries generally comes round in four days; and as the coolers are immediately repleniſhed, the work may proceed without interruption. At every diſtilling-houſe is beſides a large copper ſet in maſonry, from which the hot water is let into the cooler by pipes. Here are annually conſumed from 30,000 to 40,000 chetverts of corn; and it is reckoned that from one chetvert three, and if it turn out well, four vedros of common brandy

* Hupel's topogr. nachricht. tom. ii. p. 311.

are

are obtained*. But where they pretend to a more methodical proceſs, they employ worm-pipes and otherwiſe act upon ſound chemical principles, and conſequently receive conſiderably more produce, as, at the diſtillery at Moſco belonging to M. Grivtzof, which annually yields 15,000 vedros of brandy, where from one chetvert five or five and a half vedros are produced. — At Aſtrakhan, in the Ukraine, &c. alſo brandy is made; but fine ſpirits or liqueurs are prepared in great quantities in St. Peterſburg, Moſco, Riga, Kazan, &c. At Kamtſhatka a great deal of brandy is diſtilled from the herb bear's-breech, or brank-urſine, or ſugar-kraut†. This plant is ſo ſweet that the Kamtſhadales ſweeten their victuals with it. When the ſtalks of that which is gathered in July are ſtripped of their outward ſkin and dried, they are ſeen ſo thickly covered with a ſaccharine rime, or a ſort of ſugar-flour, that from it, as is with good reaſon ſuppoſed, large quantities of ſugar might be eaſily prepared with certain and great profit. In the aforeſaid liqueur-fabrics the corn-brandy is ſometimes employed, but more generally foreign wines, raiſins, &c. There is a fabric of this ſort ſeven verſts from Peterſburg, which was firſt ſet up in the year 1782, and belongs to M. Dolſt and company. They have eight coppers and con-

* Pallas, travels, tom. ii. p. 421.

† Heraclium ſibiricum. Ruſs, ſlatkai trava, ſweet-herb.

ſume in a year about 1200 hogſheads of ſpaniſh wine, and 3000 pood of raiſins, and produce 80,000 ſtoffs of fine ſpirits. — At preſent however they diſtil only from wine, as raiſins are too dear. One hogſhead* is put at once into a copper, from which one and a half anker of ſpirit is obtained. This is then ſupplied with ſugar, ſyrup, or honey, and ſeeds, &c. and diſtilled from the ſame copper. From one oxhoft of wine comes one anker of ſpirit. Of this fifty ſtoffs make a portion, and is ſold for ſixty-five rubles. An oxhoft of wine coſts thirty rubles. Here in one year about 1000 pood of ſugar and 1000 pood of ſyrup and honey are conſumed. — A curious kind of ſpirits, which we have occaſionally mentioned before, and prepared in great quantities by the Kalmuks and other ſiberian nations, is the milk-ſpirits. The Kalmuks diſtil this kumiſs from mare's milk, in which they proceed in the following manner: The milk is previouſly ſoured in large leathern veſſels, which is ſometimes effected by leaven or the remainder of the former diſtillation, &c. The cream is not taken off from the milk that is to be diſtilled, but all mixed well together from time to time with a ſort of churn-ſtaff; and, as in ſummer the milk is collected in leathern veſſels, they require to be thoroughly ſhaken twice a day. The mare's milk thus ſoured is called in kalmuk

* Or oxhoft. One oxhoft contains ſix ankers, one anker twenty-four ſtoffs.

tſchigan,

tſchigan, but ſoured cow-milk *argan*, and is either conſumed as drink, or ſaved for making ſpirits. When a ſufficient quantity of ſuch milk is got together, and it has been finally left to get completely ſour for a few days, the converting of it into brandy is begun: the large iron kettle for that purpoſe, well rinſed with water or melted ſnow, is ſet on a trivet over a ſlow fire, into which the milk is poured, thoroughly ſtirring it all the while, to within two fingers breadth of the brim. One of theſe kettles holds about three vedros or upwards. The cover is then put on, which is ſomewhat hollowed and made to fit, compoſed of one or two pieces of wood with a couple of ſquare holes in it, and well luted about the rim and joints with clay, mortar, or freſh cow-dung *. This done, a ſmaller kettle is prepared, with its cover, which has but one large opening and a little vent-hole, well luted, and in a trough full of ſnow. To this is added, a crooked wooden pipe, furniſhed with two handles and a cock exactly fitted and drawn over with leather or bladder, having one end on the opening of the ſmall kettle and the other on one of the apertures in the cover of the large kettle cloſely luted, and afterwards another little cover is made of clay or paſte with a conical point, and placed near the other aperture of the large kettle; and freſh fire is added. The uncovered

* Flour paſte is likewiſe uſed for that purpoſe.

aperture of the great kettle is watched till the milk in it is fiercely boiling and a ſtrong vapour is ſeen to mount, which, if mare's milk, eaſily kindles into a blue flame. Then the aforeſaid little cover is put on the aperture, fixed faſt, and the fire leſſened. The little vent-hole in the cover of the recipient-kettle remains open, notwithſtanding much inflammable vapour eſcapes by it; as the Kalmuks ſay, that without this vent the diſtillation would not ſucceed. In leſs than an hour and a half the vapour diminiſhes; then the brandy is drawn off, and there is obtained, if from cow-milk, about two-ninths, at moſt one-fourth, but of mare's milk a full third part of the whole quantity in bad brandy, which but rarely, and of cow-milk never, is ſo ſtrong as to be inflammable, unleſs it be done over again*. The Kaſchtinzes, Beltirs, and other Tartars alſo extract a ſpirituous liquor from milk; their apparatus for diſtillation is however on a better plan. The principal matter is to bring the milk into a ſpirituous fermentation, to which their mode of proceeding and the uncleanneſs of their veſſels contribute not a little.

IX. VINEGAR-MAKING. Beer-vinegar is made, and vinegar from the lees in the diſtilleries, a little wine-vinegar at Aſtrakhan, and fruit-vinegar in ſeveral parts. The firſt is made in greateſt quan-

* Pallas, travels, tom. i. p. 315.

tity,

tity, but almoſt everywhere bad enough. The ſecond, which is here called white vinegar, might be had in far greater quantity and of a better quality than is actually the caſe.

X. AQUA-FORTIS and AQUA-REGIA. What is uſed for the ſeparation of gold and ſilver at St. Peterſburg is made there. To a pood of ſaltpetre and a pood and a half of vitriol, about nine pound of water is put into two recipients; and from this compound is obtained a pood of aqua-fortis. Whether anywhere elſe in the empire aqua-fortis is prepared is not known to me. Oil of vitriol and all other acids, which are not made in the apothekes, come from abroad.

XI. POTASH-MAKING. This is a very ancient and conſiderable trade in Ruſſia, to which the numerous and vaſt foreſts in many of its provinces have given riſe. In thoſe diſtricts it is carried on to ſuch extent that every year a conſiderable quantity is exported. Some of theſe fabrics belong to the crown but more to private perſons. The crown has potaſh-fabrics in Murom, Arſamas, Tolſkoi-Maidan, Alatyr, Sviyaſk, &c. It is prepared from oak and all the ſpecies of pine; alſo a great deal of what is called wood-aſhes is here made. A conſiderable part is made merely of the aſhes from the ſtoves. — At Tolſkoi-Maidan, 112 verſts from Arſamas is the largeſt of theſe works belonging to the crown, at which the proceſs is as follows: The aſhes delivered by the boors at a

certain price are three times waſhed out in large vats, into which the water is let by cocks, yet ſo as to leave the worſt lye to be done again with freſh aſhes. The ſaturated lye is boiled in coppers ſet in brick, and the potaſh calcined white in an oblong ſquare reverberatory furnace, and as ſoon as it is cold put into caſks. The fabric here has thirty-two aſh-vats, four boilers, and a calcining furnace; and with this eſtabliſhment by conſtant work it is able to produce annually 300 caſks, each at 20 pood, to which upwards of 6000 chetverts of aſhes are requiſite, becauſe only the beſt aſhes of each chetvert uſually yield a pood of lixivious ſalts *. The beſt ruſſian calcined potaſh is known to merchants by the name of pearlaſh.

XII. SALTPETRE-MAKING. This likewiſe is a buſineſs much purſued; and Ruſſia now exports ſaltpetre in great quantities: from St. Peterſburg alone annually about twenty thouſand pood. The ſalt-petre fabrics are very numerous, belonging chiefly to the crown †. As moſt of the ſaltpetre-

* Pallas, travels, tom. i. p. 59.

† The principal ſaltpetre-work is that about ſixty verſts above Aſtrakhan, at the place where was formerly the capital town of the golden horde; it lies on an arm of the Volga, and is carried on by the people of the artillery-corps. They produce ſo much ſaltpetre, that, after deducting what muſt be delivered to the powder-mills, they are able to export every year from Peterſburg many thouſand pood on the crown's account. So early as the reign of Peter I. this ſaltpetre-work produced yearly 30,000 pood.

earth is found in Little-Ruſſia, and in the territory of the Don, on the Volga, &c. theſe works are therefore generally erected there. But likewiſe in other parts, where no manufactories are yet ſet up, there is much ſaltpetre-earth, as, near Syſran, and about Kaſchpur, and in Siberia, on the Yeniſſey, the Iyus, the Abakan, &c. But particularly fertile in it are almoſt all the diſtricts of the Ukraine, and of the neighbouring governments. Moſt of the ſaltpetre is here prepared by the Kozaks, in which they proceed nearly in the following manner: the ſaltpetre-earth is thrown into a kettle, and hot water poured upon it: when the lixivium is ſufficiently ſaturated, ſome lixivious ſalt (prepared from burnt ſtraw and herbs of the ſteppes) is added; it then clears and ſhoots and cryſtallizes into ſaltpetre. The exhauſted earth is then thrown out in thick round lumps and expoſed to the effects of the air, and in four, ſix, or perhaps ten years it is uſed again to great advantage; though it has never occurred to theſe people to add to it putrid, fat, oleaginous, unctuous, and other ſubſtances from plants and animals, as urine or dung. — At other places, ex. gr. at Tambof, inſtead of the above ſoda they add the common potaſh.

XIII. ALUM-MANUFACTORY. Nothwitſtanding, as we have before obſerved, that in ſeveral parts of the empire good alum-earth has been diſcovered, yet the preparation of this ſalt ſo neceſſary to a number of trades, has never rightly ſucceeded.

Good

Good alum-earth (to ſay nothing of the gravel) is found in the parts adjacent to the Shilka and the Argoon, in the nertſchinſkian mountains; about the Yeniſſey, the Tom, the Ai, the Iſet, and the Volga, and in various parts of Little Ruſſia. Near Tambof ſome years ago an alum-work was ſet up which is at preſent conducted, though but feebly, on the crown's account *. For ſeveral years conſecutively 34,000 pood and five pound of alum were annually imported into the harbours of St. Peterſburg, Archangel, Riga, Reval, and the other ports of Finland. The berkovetch of ſwediſh alum commonly coſts at St. Peterſburg 27 to 30 rubles; conſequently this makes an object of more than 90,000 rubles per annum. It would therefore be well worth while to conſider ſeriouſly of preparing this article at home.

XIV. VITRIOL-MANUFACTORIES. Ruſſia has ſeveral of theſe in which iron and copper vitriol are prepared. In the government of Olonetz is an iron-vitriol fabric carried on by the crown, and

* Of the alum-earth there Guldenſtædt thus ſpeaks: "The "vitriolic earths are here ſo rich, that the native ſalts bloom "outwardly upon them. — When, after exhauſting the "earths, the iron-vitriol ſeparates by the firſt cryſtallization "and depoſes a lixivium, a pure alum is generally obtained, "the quantity of which would be ſtill more conſiderable if "the earth were ſet out in the open air expoſed to the wea-"ther." Travels, tom. i. p. 40. — In one year this manufactory prepared only 984 pood of alum and 828 pood of vitriol.

obtains

obtains annually 2000 pood of vitriol. Of private manufactories there are about eleven: one at Moſco, in the circle of Moſco; another in the klinſkoi-circle; one in Roſtof; one in Kaluga, in the beſcheſkoi-circle; one in Yaroſlaf; two at Voronetch; and at Putavl likewiſe a vitriol-manufactory.

XV. BITTER-SALT preparation. The bitter ſalts * of Siberia and Aſtrakhan, which are prepared from the brine of the bitter-lakes, are well-known, and are now in common uſe in the apothekes. Somewhat of a ſimilar ſalt was formerly prepared alſo near Tzaritzin. If a foreign vent could be expected for it, it might be likewiſe obtained in great quantities from the native brine at the ſalt-works, which is at preſent thrown away. At the ſame places much ſal-ammoniac might be gained, and according to Dr. Pallas it may even be prepared from the dunghills about Saranſk, 203 verſts from Arſamas.

XVI. SUGAR-WORKS. Of theſe are four in St. Peterſburg; one in Kaluga. But, on account of the high price of the raw material, they are no longer at work. — Beſides theſe, there was another at St. Peterſburg, which for its magnitude deſerves to be particularly mentioned. The premiſes ſtand on what is called the Matiſova iſland at the extremity of the Neva; and, by this peculiar ſituation, had the advantage of bringing all

* Magneſia vitriolata.

its

its materials by water. This manufactory, at which annually from 70 to 80,000 poods of ſugar were made, was likewiſe connected with a large diſtillery; it had alſo ſix large breweries, with two corn-mills, and a ſpacious orchard, which on the ſide towards the Neva afforded a delightful proſpect. Theſe premiſes compriſed a ſpace of 1980 ſquare fathom. The firſt proprietor was a ruſſian merchant named Gutuyef, and the works coſt him 150,000 rubles; it afterwards belonged to prince Potemkin Tavricheſkoy, and at preſent Michael Godfrey Trozien, a merchant of St. Peterſburg and a very active man, is the owner of it.

XVII. Manufactories of COLOURS FOR DYE-HOUSES. Works of this kind, where white-lead, minium, berlin-blue, paint, verdigris, and in ſome alſo ſealing-wax, are made, are theſe: in Moſco two; at Verea one; at Tula one; at Koſtroma three; in Savſk three; in Vologda three; at St. Peterſburg three. Where only ſealing-wax is made: in Vologda two; in St. Peterſburg two; with a few others of leſs note in different places.

XVIII. DYE-HOUSES. Where ſilks, cottons, woollen ſtuffs and linens are dyed, are: two in Moſco, and one in St. Peterſburg. Theſe however are not to be compared with the large dye-houſes which here belong to the cloth, cotton, and ſilk manufactories, and where certainly many goods are dyed as well as any that are done abroad. — Beſides, domeſtic dyeing is a very cuſtomary

buſineſs

buſineſs with the ruſſian houſewives in the country, as well as among the wild ſiberian nations, to which end they generally uſe the plants that grow wild in their diſtricts. In moſt of the countries bordering on the Volga, for inſtance, where there is a great deal of dyeing, the ordinary proceſs is this: the principal material in theſe dyes is the moſs that grows plentifully in all the marſhy pine-foreſts of Ruſſia *, and is generally known and uſed under the name of ſelenitza. This herb is pulverized and made into a ſtrongly acid quas in the uſual way with meal, and which ſerves as an infuſion to almoſt all colours. In this the woollen yarn, which is to be dyed, is put to ſoak for one night or more; it is then rinſed and dried, by which it receives a yellowiſh hue, and takes the other colours better and more durably. The common people, who are unacquainted with the properties of alum, practiſe ſcarcely any other preparation than this, and in general for all dyes. The Morduanes †, Tſchuvaſches, and Tartars, inſtead of this moſs employ ſometimes the herbs of the yellow ſpring flowers ‡, ſometimes the common wormwood with a little addition of broom §, but moſtly, and with the beſt ſucceſs, the leaves, which dye

* Lycopodium complanatum.

† Concerning the art of dyeing among the Morduanes, which is nearly the ſame with that here deſcribed, ſee Lepekhin's journal, tom. i. p. 74.

‡ Adonis verna. § Geniſta tinctoria.

of

of an agreeable yellow, of a certain thiſtle *, and with which they dye green the wool that is previouſly dyed blue with indigo or woad. Some Ruſſians put with the moſs-powder a ſmall matter of broom, [drok,] among the quas with which the wool is prepared. The moſt uſual dyeing herbs are: for a bright yellow, the flowers of the yellow camomile †, which in ſome places is called puparka; the broom and the dye-thiſtle ‡. For dyeing deep yellow, the water-burdock §: for deep red, the wild-madder or krap ||. For ſtaining a bright crimſon the common duſchitza or origanum is taken. Green is beſt dyed on blue wool with the forementioned yellow-dyeing herbs or birch leaves; but many have the art of dyeing by boiling with an addition of alum from the unblown ears of ſedge θ, a deep green, and from the berries of the faulbaum, kruſchina, a yellow-green colour. But for dyeing blue no domeſtic dye is yet in uſe, excepting that in Little-Ruſſia they dye blue with the woad that grows wild there ϑ. Moreover, the people

* Carduus heterophyllus. † Anthemis tinctoria.

‡ Serratula; in ruſs, ſerpucha.

§ Bidens tripartita; ruſs, tſcheryode.

|| In ruſs, mariona, which is commonly the root of gallium mollugo, or aſperula tinctoria.

θ Arundo calamogroſtris; ruſs, mietlika.

ϑ A merchant of Novgorod, named Popof, made ſeveral experiments with indigo prepared from an herb growing very frequently about Novgorod, which was thought by appearances to be a ſpecies of anil. This indigo was found, after repeated

people buy woad and indigo, or logwood, and proceed with them in the ordinary method. For dyeing yellow with broom, the powder is put into the very ſame quas in which the wool has been prepared, in ſuch quantity as to give the compound the conſiſtence of porridge. The wool muſt firſt lie a week in the moſs alone, then a few days longer in the quas with broom. To beautify the colour the wool is waſhed repeatedly in lye, after it has been wrung and dried. The dye-thiſtle is boiled in water alone, or at moſt with a trifling addition of alum, and the yarn prepared with the quas is dyed in it boiling. With the flowers of the yellow camomile, as likewiſe with almoſt all the faint-coloured flowers * that commonly grow in gardens, are dyed both wool and ſilk; but eſpecially with the latter, it requires ſome ſkill to hit exactly the proper addition of alum. The herb of the water-burdock gathered young yields, in water alone, if boiled with

---

repeated trials, to be in no reſpect inferior to the american. The death of this perſon, which happened ſoon after, was a check to the fabric, from which it never recovered. The experiments were made in the year 1748. Albaum, tom. i. p. 274. — The herb was probably, not anil, but wild woad. — Another woad fabric near Penſa, belonging to the merchant Tavleyef, is mentioned by Dr. Pallas, travels tom. i. p. 75; but the dye is ſaid to be very indifferent, and not laſting.

* Tagetes.

a little alum, a beautiful deep yellow, which, by a ſmall addition of wild-madder, becomes more brilliant, and by frequent dyeing is more and more lively. The wild-madder is, like the generality of plants, pounded in wooden mortars or ground to powder in hand-mills, and made into a thick gruel with water, and ſet to ſtand the whole night in a warm oven. The following day more water is added to dilute the gruel, and the madder is ſtrongly boiled. Some, for the ſake of heightening the colour, previouſly ſeeth ſome young oak-bark or birch-bark in the water, but the Tſchuvaſches put water among it. Ever after the concoction is red enough for them, they dye their wool three or four times or oftener; at firſt lukewarm, but the laſt time boiling, letting it dry after every repetition. If now the colour be fine enough for them, the yarn is waſhed in the river and dried. By an addition of the water-burdock-herb, dye-thiſtle, broom or carduus heterophyllus, the colour is brighter and pleaſanter. The fineſt tincture is given by that black-red powder which firſt ſeparates, on gently pounding, from the root, and is the proper dyeing bark of it. The proceſs with the duſchitza or origanum is ſomewhat more prolix. The herb is gathered in bloom and chiefly the ſummits of the flowers, which are all dried in the oven and pulverized. In ſpring young twigs that have fallen off the wild or uncultivated apple-trees muſt likewiſe be collected, and alſo pulverized. Of both they

they take equal parts; others will only allow of one part apple-twigs to two parts of the dye-herb. To the fourth part are added ſome grains, guſtſcha, ſtirring all well together with water, and it is ſet by with ſome yeaſt to ferment. As ſoon as the compoſition is ſour, it is preſſed out with the hands, and then ſpread out the whole night in a warm oven, frequently ſtirring it about. The dry compound is laſtly boiled in clean water, and the dye is ready, for which the yarn muſt be already prepared in the uſual manner. Some, not ſo circumſtantial, take equal parts of the herb and the apple-twigs, and boil them both together, with a ſmall addition of alum; but by this method the red obtained is by no means ſo fine *. The colour afforded by this herb is the fineſt of all the dyes which the country-people know how to prepare. In general the colours prepared by theſe ſeveral

* The Kozak-women on the Samara dye red alſo with the poliſh cochineal, tſchervetz. They lay the yarn which they intend to dye in a thoroughly ſour quas, then add alum, and let the veſſel with it ſtand 24 hours in the oven. Then it is wrung out and dried; but the tſchervetz is grated in a pan, boiled with water, and when all the dyeing particles are thoroughly extracted, the yarn is put in and boiled once more. With one handful they dye about as much as is neceſſary for two of the ſaſhes, which they wear, or about a pound of wool. The colour, however, looks no better than that obtained by the common duſchitza, or origanum, only that it is more permanent. Pallas, travels, tom. i. p. 206.

means look well to the eye, and many of them ſtand waſhing without being ſubject to fade *.

The genuine dye that is given to cotton at Aſtrakhan with madder, a buſineſs moſtly carried on by the Armenians, deſerves to be noticed here. They get the madder from Ghilan and about the Terek, where it grows wild. It is put in a brick oven ſunk in the ground, heated very hot, and covered with earth, where it muſt lie ſweating till the oven is cold, when the roots are taken out the ſecond or third day and ſpread aſunder in order to dry. They are then dried in the ſun and ground to a fine duſt in a horſe-mill, as well as the leaves, neceſſary to this dye, of the ſumack-tree †. Beſides theſe two materials this red dye requires galls, alum, domeſtic ſoda, which is burnt in the ſteppes of Kitzliar and Aſtrakhan, and fiſh-greaſe. This latter is prepared from the beluga, the ſturgeon, and the ſudak. The cotton yarn is firſt clean-rinſed in a running ſtream, and hung out on a fine day to dry on poles. If it be not dry by the evening, it is taken in to avoid the nitrous dew, and the following morning it is hung out again. The yarn is then laid in a tub, and fiſh-greaſe poured on it till it is quite covered with it. Here it muſt lie the whole night; but in the morning it is hung acroſs poles for the entire day,

* Pallas, travels, tom. i. p. 203.

† Rhus cotinus.

and

and this is repeated for a week, that the cotton may lie ſeven nights in the greaſe, and ſeven days imbibe the greaſe in the air, and can be properly ventilated. The yarn is now brought again to the river, cleanſed thoroughly, and left to get completely dry on clean poles. After this preparation they make uſe of the following infuſion: they firſt boil the pulverized leaves of the ſumack-tree in copper-kettles, and when theſe have ſufficiently diſcharged their colour, pounded galls are added, with which the compoſition muſt be boiled again, and thus acquires a turbid dirty colour. When ſufficiently boiled the fire is taken from under the kettle, and, while the concoction is ſtill hot, alum is thrown in, which immediately diſſolves. Galls and alum are in proportion of five pound to every pood of cotton. The compoſition muſt be ſufficiently yellow, ſtrong, and aſtringent. When the alum is once diſſolved no time is to be loſt. For imbuing the yarn with it hollowed blocks of wood or mortars ſtand ready; in each of which a good ladle-full of the concoction is poured, ſufficient for a piece of yarn to imbibe, without leaving any to remain. As the workman pours the concoction into the mortar, he at the ſame time puts in a piece of the yarn, preſſes it down with his hand till it is uniformly wet and has ſoaked up all the concoction; having ſqueezed it out, he lays it aſide, and proceeds in like manner with another piece till all the cotton yarn has the liquor. It

receives from it only a pale yellow colour, but which is not tranſient; and, having this, it is hung out to dry in the ſun on poles, then clean-rinſed in the river and dried again. By this yellow dye, that of the madder is more bright and lively; but the galls damp the ſuperfluous yellow, and prepare with the alum the yarn for dyeing. Some manufacturers, however, omit entirely the ſumack leaves, and make the concoction only of galls and alum, in ſuch manner that the galls firſt boil in due proportion with the neceſſary quantity of water, and the alum diſſolves in a ſeparate veſſel with boiling water, when both waters are poured together into a tub, and the cotton laid in it for an hour or an hour and half, whereupon it is gently dried, waſhed, and dried again. By which treatment the yarn gets a dirty reddiſh colour. Now the madder-dye muſt be prepared. Large troughs are placed ready, into which the madder, cruſhed to a fine red-brown duſt, is ſcatered, and in each trough a large bowl of ſheep's blood, which the dyer may have in plenty, is poured. With this the madder is well worked together by the hands, and muſt ſtand thus for a few hours, that it may be thoroughly wet, as then this mixture acquires a dark-red appearance, and the madder yields more red by boiling. After this preparation, water is made hot in a large kettle ſet in maſonry, and as ſoon as it is warm, the prepared madder is infuſed in ſuch proportion, that for each pound

of

of cotton one pound of madder enters the kettle. With this the dye muſt be made to boil ſtrongly; and when it is fine enough, which may be tried upon the cotton-threads, the fire is removed from beneath, and all the prepared cotton is brought to the kettle. The dyer ſeats himſelf on the brick-work brink of the kettle, dips the cotton-yarn by pieces in the dye, waving it about to and fro, preſſing it ſomewhat with the hands, and lays it piece after piece in troughs ſtanding by. When the cotton has got the firſt dye, it is hung out to dry: but, as the red is ſtill too dingy, the yarn now once dyed and dried, is put in the dying-kettle and muſt boil in it over a ſtrong fire for three hours, by which it then acquires that beautiful deep red ſo particularly admired in the turkiſh yarn. It does not however always turn out equally fine. The yarn is now taken with ſticks out of the dye, the adhering madder is ſhaken off, the threads are diſentangled, reduced to order, and hung piece by piece to dry. When thoroughly dried it is all waſhed clean in the river and again dried. The whole operation terminates by diſſolving the above-mentioned ſoda, kolakar, with boiling water in tubs prepared for that purpoſe, of which to a pood of cotton twenty pound, and therefore half the weight, is uſually reckoned. Then they have pans of an enormous ſize, which in Perſia are made of a very good ſtrong clay, above one and a half arſhines in height, in the belly about

five ſpans over, and terminating at top with a neck of only about a ſpan and a half: theſe are kept over a furnace incloſed in brick, or done round with mud, ſo that only the neck is to be ſeen. They are then filled with the coloured cotton yarn; and the lye of the diſſolved ſoda, which is blackiſh and very acrid, is poured in till the jar is filled, in the mouth of which clean rags are ſtuffed, that the uppermoſt pieces of the yarn may not miſs. This done, the fire is kindled below, and kept under the jars for 24 hours, on which the ſteam riſing from the jars is ſeen to collect in the rags in red drops. By this boiling the dye is heightened, ſoaked in, the ſuperfluities removed, and all the greaſe adhering to the yarn lixiviated from it; and nothing further is neceſſary to the perfection of the yarn, than once more to rinſe it clean in the river, and to dry it well *.

Another kind of dyeing practiſed in Ruſſia is the DYEING OF FURS. The great quantity of animal ſkins and furs, produced every year in Siberia and other parts of the ruſſian empire, are moſtly bought up by the dealers untanned and unprepared, and in that ſtate brought to the towns, particularly to Moſco, where they firſt receive the neceſſary preparation; and the ſkinners there have the art of dyeing the hair in various ways, and eſpecially of giving the ordinary or decayed ſables a fine black goſſy hue, which however the Greeks,

* Pallas, in Pet. journ. tom. ii. p. 18.

who

who live in Moſco, and deal largely in furs, underſtand ſtill better than the Ruſſians; but both make a myſtery of it. Notwithſtanding which, we have been able to procure the following account of it: "For killing 2 lotes of litharge, take $1\frac{1}{2}$ lote "copper-aſhes, 1 lote of ſal-ammoniac, 1 handful "of aſhes of brazil, $\frac{1}{2}$lb. of lime and human-"urine, and put altogether in a veſſel, paint the "hair with it cold twice diſtinctly, dry it, and beat "it out. Afterwards roaſt little nutgalls, about "$\frac{1}{2}$lb. ſprinkled with a couple of thimblefuls of "linſeed oil, in a luted pan, till, by frequently "ſhaking the pan and by increaſing the heat, "they begin to ſound hollow; then let the pan "cool of itſelf. The inſide kernel muſt not be "penetrated by the black of the ſcorching. To "theſe pulverized nutgalls take one lote of engliſh "copperas, $\frac{1}{2}$ to 1 lote of roman alum, $\frac{1}{2}$ a lote of "copper-aſhes, 2 lote of litharge, 1 lote of verdi-"gris, $\frac{1}{2}$ lote of ſal-ammoniac, 1 lote of ſifted "ſhumac, 1 lote of antimony or ceruſe, and 1 can "of rain-water. When all this is well mixed with-"out the help of fire or more water, it muſt be "laid on alternately with the foregoing killing-"compound, taking care that after every paint-"ing the hair be well dried. In this ſtate the "coloured hair, turned inwards, muſt undergo for "6 hours the killing-compound, and then the dye "is for the laſt time painted on and dried. Be-"tween the alternations of the laying on the dye,

"the

" the fur, as always after colouring, is turned " and trodden with feet; laſtly the fur is rubbed " againſt the hair with ſaw duſt." — The uſual compound for dyeing the ſables at Moſco is not ſo compoſed. Litharge, green vitriol, nutgalls and alum are almoſt the only ingredients. The chineſe coloured ſables, which are ſeen in Siberia, are incomparably finer and more laſting than the ruſſian. But both are often ſo artificially coloured, that it is with ſome difficulty they can be diſtinguiſhed from the natural. The white ice-fox is even at preſent in Moſco coloured an uncommonly fine black.

XIX. PHARMACY. This buſineſs is here not ſo new as ſome perhaps may imagine. So early as during the reign of tzar Borice Godunof, therefore nigh two hundred years ago, there were apothekes in Ruſſia*. Nevertheleſs, in reſpect to the great range of territory in the empire and its numerous population, there were then but few in the country. The principal apothekes belonging to the crown are: in St. Peterſburg 6, Cronſtadt 1, Reval 1, Riga 1, Archangel 2, Moſco 3, Lubna 2, Aſtrakhan 1, Orenburg 1, Saratof 1, Tobolſk 1, Smolenſk 1, Ekatarinenburg 1, Kherſon 2, Kharkof 1. — Private apothekes: in St. Peterſburg 6, in Moſco 5, in Riga 8, Reval 2, Dorpat 1,

* See Bachmeiſter's verſuch ueber das naturalienkab. der kaiſerl akad. der wiſſenſch.

Narva

Narva 1, Vyborg 1, Yaroſlaf 1, Glukhof 1, Kief 1, Kazan 1, Niſhney-Novgorod 1, &c.

XX. TOBACCO-MANUFACTURE. Since the culture of this plant has been ſo much extended, there are alſo a number of eſtabliſhments, where the leaves are manufactured for tobacco and ſnuff. In Moſco alone are four conſiderable works of this nature. But, as they were not reckoned properly manufactories, they were not entered in the books of the manufactory-college.

XXI. PAPER-MANUFACTORY. There are three manufactories of paper in Moſco, and two-and-twenty other in various parts of the empire. Beſides theſe there are (even in Siberia) a few others, which have either been lately erected, or, like the livonian and ukrainian, are not regiſtered at the college of manufactures. They in general make only common writing and printing-paper, and even them neither in ſufficient quantity, nor of prime quality; accordingly a conſiderable quantity of paper is imported every year.

XXII. PAPER-HANGING MANUFACTURE. As theſe hangings are greatly uſed in Ruſſia, they are therefore made in large quantities. There are ſeveral manufactories where this work is carried on to a great extent. Cere-cloths are likewiſe prepared at ſome of them. In Moſco are five of theſe manufactories, and their paper is of different qualities.

XXIII. PLAY-CARD MANUFACTURE. The greateſt

greateſt is at the foundling-hoſpital at Moſco, which likewiſe has the ſtamp-duty on thoſe made at other places. Of theſe are three at Moſco and one at St. Peterſburg. — Though ſo much paper is made in the ruſſian empire, yet, as far as our knowledge reaches, no boxes or other things are made of papier maché.

XXIV. PRINTING-OFFICES. In St. Peterſburg are printing-offices belonging to the crown, at the ſenate, the college of war, the academy of ſciences, the mine cadet-corps, the land-cadet-corps, and the artillery-corps; in Moſco at the univerſity, and at the ſenate, and for the church-character at the ſynod in St. Peterſburg and in Moſco, and at the academy in Kief. Beſides theſe there is one belonging likewiſe to the crown at Krementſchuk (or Ekatarinoſlaf) and another at Aſtrakhan. Private printing-offices are: in St. Peterſburg 3, in Reval 2, in Riga 1, in Dorpat 1, in Oberpahlen 1, and in Moſco 1. Printing is performed in the ruſſian, german, french, greek, ſlavonian and arabic languages; but moſtly the three firſt. At all theſe however but little is printed, either at the expence of the crown or of occaſional writings, unleſs of ſuch as it may reaſonably be expected will have a rapid and numerous ſale. It may indeed be affirmed, that almoſt all the ruſſian writings are printed at the expence of the crown, which in one way or another has furniſhed the money for them. It as rarely happens

that

that works in foreign languages are printed in Ruſſia at the charges of the publiſher, becauſe from the high price of the paper, the great wages of compoſitors and preſſmen, and the diſtant tranſport of the books to the Leipſig fairs, they would not anſwer. The preſſes, however, at Riga and Reval in ſome degree form an exception. In ſhort, printing and bookſelling were declared ſome years ago by the late empreſs to be a free trade, which any one might follow; and it was doubtleſs the intention of that ſagacious monarch in thus farther extending this art, to inſpire her ſubjects with a greater love for the ſciences and all uſeful and ornamental knowledge; but various impediments remain to be removed ere that deſirable end can be fully attained. — There is nothing here peculiar in the practice of the typographical art, excepting that the compoſitor's upper and lower caſes are both in one piece, and that the preſſman's heap of white paper ſtands on the off-ſide of the preſs, whence he draws the ſheet to him on the tympan, which when printed he brings to the bank on the near ſide. — The firſt book printed in Ruſſia is The Acts of the Apoſtles, &c. bearing the date 1564. It was ten years in printing, and was executed by the printers Ivan Feodorovitch, and Pietre Timofeyef.

XXV. SAIL-CLOTH AND CORDAGE MANUFACTURE. In Ruſſia are many large works of this kind. Some very conſiderable are maintained

by the crown, particularly at the admiralty at Archangel, St. Peterſburg, &c. At Novgorod likewiſe is a large manufactory of ſail-cloth, belonging to the crown. Of private works of this nature there are: in Archangel 9, one in each of theſe towns, Kolomna, Tambof, Yelatma, Brianſk, Niſhney-Novgorod, Saratof, and 11 at St. Peterſburg. Beſides theſe there are ſeveral other ropewalks; one of the moſt conſiderable is in Kaluga, belonging to the rich merchant Luginin; another is near Narva, &c.

XXVI. LINEN-MANUFACTORIES. Theſe are very numerous, and ſome of them great and important. They generally confine themſelves to coarſe, and for the moſt part ſtriped linens; next to theſe, table-cloths, and extremely fine ones, rich napkins, much printed linen, naboika, &c. fine linen but very little, and cambrick not at all*. The fineſt and beſt ruſſian linen, which may be compared with the ſileſian and warenſdorf, comes from the government of Archangel, and is called gorodſkoi polotno; it is likewiſe as broad

* However, a cambrick manufactory was ſet up at Yamburg at the expence of the late empreſs. It employed the flax of the country, and the ſpecimens that I have ſeen of it, ſays Mr. Albaum, were equal to the beſt flemiſh cambrick; but it is aſtoniſhingly difficult to accuſtom the girls and the women to fine ſpinning. All the ſpecies that have been hitherto made there are conſumed by the court alone; none is ſold.

as the foreign, but by far not ſo finely bleached and got up. Beſides, tolerably fine linen is made by the boors in ſeveral other parts, as at Liſkova on the Volga, but not above half an arſhine wide, though Peter I. ſo long ago as 1718, ordered that all linen ſhould be woven as broad as the foreign. — In 1764 the export of ruſſia linen was about 30,000 arſhines*; but in the year 1784 of various ſorts greatly exceeded 3 millions of arſhines, and from 1758 to 1778, in 20 years 260,909,180½ arſhines. In the ſeveral parts of the empire are 64 linen manufactories.

XXVII. COTTON-MANUFACTORIES. There are ſome very conſiderable; about 8 in number. One at Kraſnoe-ſelo and another at Schluſſelburg make chintzes, but moſtly half-chintzes, bivoika, and common cotton; alſo mitkal, coarſe muſlin, mancheſter, barchent, ſtockings, &c.

XXVIII. SILK-MANUFACTORIES. Theſe are not leſs important than numerous. There are at leaſt 40 of them in various parts of the empire. Belonging to the foundling-hoſpital at Moſco is alſo a ſilk-ſtocking-manufactory. The oldeſt and ſtill the moſt important and beſt conſtituted is that of M. Lazarof in the village Frenova, 60 verſts from Moſco. It has generally 110 frames at work, with 500 workmen, and works up about 200 pood of raw ſilk per annum. The wages of the people

* Kilburger von ruſſ. handel.

alone

alone come to 1500 rubles a month. It has three filatories, each of 640 reels, which are ſet in motion by a water-wheel; and beſides a ſmall filatory, turned by men. Here are made velvets, atlaſſes, gros-de-tours, taffety, gold and ſilver tiſſues, peruvians, brocades, and various kinds of faſhionable ſtuffs, and eſpecially very fine hangings like thoſe of Lyons. Of the latter upwards of 10,000 arſhines were put up in the new palace of the late empreſs at Moſco, which are of uncommon elegance. For the peruvians a loom is kept, which has only one ſtool and a cylinder, and the faſhion is given to the ſtuffs by means of pegs. A man can weave five arſhines in a day at it. Here, as well as at ſeveral other manufactories at Moſco and Yaroſlaf, is likewiſe a machine at which ſeveral ribbons can be wove at the ſame time. — Theſe manufactories work up perſian, italian, bukharian, chineſe, and ſome ruſſian ſilk, of which they make taffety, chalons, damaſk, gros-de-tour, velvet, ſtuffs, ſtockings, cloths, hangings, and various kinds of half-ſilks.

XXIX. GOLD AND SILVER LACE MANUFACTORIES. In St. Peterſburg are about five of theſe, where this buſineſs is carried on in the groſs.

XXX. CLOTH AND STUFF MANUFACTORIES. In Ruſſia are 56 of them, but making only coarſe cloths for the army and others all of home-ſpun wool. — It is ſeveral centuries ago that the cloth-manufacture has been introduced into Ruſſia,

ſince the old year books ſay expreſsly, that on the incurſion of the Tartars they pillaged in 1382 the manufactories of cloth at Moſco. — Nevertheleſs there is ſtill annually imported to the value of upwards of two millions of rubles in fine cloths and ſtuffs. — The cloth-manufactory at Yamburg was inſtituted by Catharine II. preſently after her acceſſion to the throne, under the direction of a M. de Valier, on account of the crown. It contains 36 looms, and has above 600 work people. By means of a machine annexed to every loom, only one man works at each. The cloths are ſold at St. Peterſburg at a proportionately low price. — In the territory of Orenburg and in Kazan ſome cloth is alſo made of goat's wool; for in March, when the goats begin to change their winter hair, it is the practice to comb them with large wooden combs, by which a wool is obtained, which has ſerved them for a winter-garment, and which is ſo fine that it yields in no reſpect to the fineſt fur of the beaver. But the hair muſt be carefully picked. It is then combed on ſpinning-combs and the fine wool drawn out with the fingers; but which with a great ſtore may be more advantageouſly done with good combs contrived for that purpoſe. The wool thus drawn out is laid layerwiſe in flocks, is looſely wound up, and then ſpun like other fine wools on ſpindles. The heedes are particularly ſpun, of which night-caps, ſtockings, &c. may be made. But the ſpun-yarn of the fine

wools is wove into cloth, which to feel is as ſoft and fine as that made of vigogna wool; and may be employed in making hats, which turn out as fine as thoſe of real caſtor. The natural colour of this wool is more or leſs white and bay; but takes all dyes. Only the collecting of it is ſomewhat difficult, as from 100 goats not much above 20 pounds of wool are obtained. — The crown-manufactory at Yamburg, and another on the eſtates of prince Potemkin, make alſo fine cloths, moſtly of ſpaniſh wool. — The private manufactory at Kazan likewiſe makes a fine ſtrong half-cloth of camel's wool, which is left of its natural colour *.

XXXI. CARPET-MANUFACTURE. At St. Peterſburg is a carpet-manufactory belonging to the crown, and the work which it turns out is excellent. It has copied many of the fineſt pictures in her majeſty's collection ſo accurately as to excite the amazement of all beholders. — Manufactories of this kind are alſo on the eſtates of the Vorontzofs in the government of Penſa. Others are frequent in different parts, and even in Siberia near Tiumen, where handſome carpets are made in the perſian manner, and are bought at two or three rubles the arſhine.

* More circumſtantial accounts of it are given by profeſſor Georgi in his travels, tom. ii. p. 817.

XXXII.

XXXII. HAT-MANUFACTORIES. Of theſe there are very many, and a multitude of common hat-makers; the fineſt of their hats, however, are not remarkably good. The beſt are made in St. Peterſburg and Moſco; but the largeſt fabric is at Smolenſk. — Under this head muſt likewiſe be added FELT-MAKING, which is proſecuted to a great extent, eſpecially in Siberia. The Tartars and Baſchkirs, &c. are very expert in this buſineſs. They make felts, voiloks, of ſuch a ſize that the floor of a whole room may be covered with them. Many of theſe felts are exported. So long as forty or fifty years ago, in one year upwards of 168,500 arſhines were ſhipped off from the port of Archangel. The beſt felts were then made at Kaluga.

XXXIII. LEATHER-MANUFACTURES. No trade in Ruſſia is of ſo antient a date and ſo extended as this. The excellent yufts which are peculiar to Ruſſia, are everywhere ſufficiently known *. They have alſo the art of preparing ſeveral other ſorts of leather of extraordinary quality. The chief products of the tanneries of this country, as before obſerved, are the YUFTS. In

* The principal places where, next to Moſco and Peterſburg, the moſt yufts are prepared, are: Arſamas, Koſtroma, Yaroſlaf, Pſcove, Kazan, Vologda, Niſhney-Novgorod, Vladimir, Ekatarinenburg, &c. In England they go under the general name of ruſſia leather.

the preparation whereof they proceed in the following manner: the raw ox-hides are firſt laid in running water, or in large tan-pits full of water dug in the earth for that purpoſe, to ſoak for a whole week; but in ſummer not ſo long. During this time they are daily taken out of the water, and ſcraped at a ſcraping-bench or wooden horſe. Having now been duly ſteeped, they are put into a lye, thus prepared: In other vats, likewiſe dug in the ground and under cover, they mix two parts of good aſhes with one part of unſlacked lime, in boiling water, and ſink the wet hides in this lye on a grating, which being ſuſpended by cords, can be raiſed or let down at pleaſure. In this vat the hides are laid again for about a week, though in warm weather leſs, in cold perhaps even longer. The ſign that they have lain long enough in the lye is, that the hair can without difficulty be rubbed off with the hand, ſo that none remains. If the hides, after the expiration of a week, are not in that condition, freſh aſhes are put into the lye, and the ſkin ſunk in it. But if at length the hair be ſufficiently looſe, the hides are entirely taken out of the lye, and all the hair ſcraped off on a ſtretching-block by means of blunt iron ſcrapers with two handles. The hair is waſhed clean and ſold for domeſtic uſes. The hides, thoroughly cleanſed from hair, are ſuſpended in vats of clean water on a running ſtream, where they remain three days, di-

ligenly

ligently turning them to and fro, in order to purge them from the aſhes and lye; afterwards they are hung up and left to drain. The hides muſt now be ſcraped on the fleſh ſide. To this end they employ either the aforeſaid ſcraping-iron, or others ſharper in various degrees. After this treatment the hides are trampled. But calves-hides have another ſort of preparation, which the yuft-tanners in the interior towns of the empire, who moſtly practiſe it, call rakſcha. This preparation is performed with the white excrement of dogs dried, which is diſſolved in boiling water, and to a hundred hides about four vedros full of excrement is the rule. If here the right proportion with the water be not found, the hides corrupt in this ſlime, the object whereof ſeems to be the complete freeing of the ſkin from the ſalts that adhere to it from the lye. The hides are left to lie twice twenty-four hours. With this is ſtirred a ſour gruel of oatmeal with warm water, and to three oſmics, or eighths of a chetverik, three or four vedros of dregs of the common quas which the people make of meal and a ſmall portion of malt, put in the thin gruel that it may quickly ſour with the hides. To ten hides the tanners uſually reckon forty pounds of meal *.

* A circumſtantial account of the yuft-tannery in Murom (which agrees in the main with what we are here deſcribing) is given by profeſſor Lepekhin, in the journal of his travels, tom. i. p. 24. and of the tannery of the Baſchkirs, tom. ii. p. 24.

After the hides have ſoured, which is done in large vats, they are laid in other vats and well ſteeped for two or three days in a ſtrong tan-juice, ſok, thoroughly boiled from good bark. When this is done they are brought ſtraight to the tan. In the tan-pits, in which often ſome hundreds of hides are lying, is poured half water and half tan, or water boiled with tan, and a grating is hung in with cords, having one hide after the other ſpread upon it, thick ſtrewed with good fine-pounded tan, and the grating conſtantly let deeper into the pit, till it be nearly full; yet ſo that the tan-liquor is always above the hides, which are then again ſprinkled over with tan. In this tan the hides continue to lie a week; thoſe of full-grown animals longer. On being taken out, they are waſhed and trampled on, which two workmen in a ſummer's day can perform with three hundred hides. The next day they are laid, in the manner above deſcribed, in freſh tan. Thus they generally get four times ſucceſſively freſh tan, and are every time rinſed clean. In the laſt tan they lie three weeks or longer, are then finally waſhed, hung up, and, when they have tolerably drained, delivered to thoſe workmen whoſe buſineſs it is in particular workſhops to dye, dreſs, and wax the yufts, and to deliver the goods finiſhed. It is to be obſerved, that the ruſſian yuft-tanners ſeldom uſe oak-tan, and never willingly. The choiceſt and beſt tan is that of the tſchernotal, as they call

call it, or the black willow, and alſo the young bark peeled off from other ſhrubby willows, which are collected by the boors, dried in bundles, and brought in cart-loads to market. To ten hides the tanners compute one and a half fathom of theſe bundles of willow bark as they are laid one upon another for ſale, through all the tans. It muſt not however be imagined that the excellence of the ruſſian yufts depends on this; for in Siberia, where are no oaks, and but few willows of any ſize, they tan yufts with only birch-bark, which are not much worſe than the ruſſian. The bark is made ſmall by either ordinary tan-mills, turned by horſes or by water; or the tanner himſelf in many towns where are no mills, cauſes it, at unneceſſary expence and labour, to be pounded in wooden mortars or excavated blocks, with peſtles, almoſt like thoſe in the tan-mills, by day-labourers. — The dyeing of the yufts is performed in two ways and of two colours. The commoneſt and moſt natural cuſtom of giving the colour to the hides, is, by ſewing them together in pairs, the hair-ſide inwards, while they are yet moiſt, round the edges, with ruſhes or ſtripes of bark, thus forming them into a bag or ſack; into this ſack the colour is put, the ſack well ſhook and the ſuperfluous dye let to run out, whereupon the ſkins are dried. From this method of dyeing them, it ſeems to proceed that the yufts are called and taken by pairs. The

other proceſs, whereby much trouble, time, and colour are ſaved, and the edges of the ſkin entirely preſerved, is the following: Each ſkin is hung upon a horſe over a long trough, ſo that the hair ſide, which muſt be ſtained, appears outwards, pouring the dye upon it out of the dye-kettle, till the whole ſkin is dyed. The two colours given to the yufts are red and black. The red dye is thus prepared: Pound brazil-wood (ſandal) in the pounding-mill, or with hand-peſtles, as fine as the tan, and boil it in kettles. Previous to the dyeing, ſteep the ſkins in alum-water It is calculated, that to each ſmall yuft-ſkin a half, and to a large one a whole pound of logwood is put. But the latter are moſtly coloured black. To a hundred yufts to be dyed red, four pounds of alum is ſufficient. For dyeing black the brazil-wood is likewiſe uſed; but in the red dye to a hundred ſkins three pounds of good iron vitriol is diſſolved. After the firſt tincture the ſkins are dried, and afterwards on tables done over again with the ſame dye and rolled up, that they may thoroughly imbibe the dye. For heightening the colour this tincture is ſometimes thrice repeated. When the ſkins are now tolerably dried, by hanging, that the colour may not fade, with the fleſh ſide outwards, the yufts, ſtill ſomewhat moiſt, are ſmeared over on tables that have ledges. There was a time when it was commanded by authority to uſe nothing but dolphin and

and ſeal-blubber for ſmearing them; but by that the yufts are harſher and have not that yuft-ſmell, which foreigners prize ſo much, unleſs the birch-tar, deggot, prepared in Ruſſia, at leaſt be mixed with it. At preſent this birch-tar alone is uſed for ſmearing. This done, the ſkins are cleanſed from any impurities that may remain, and are ſent to the dreſſing-houſe, where ſkilful workmen ſcrape them firſt with ſcraping-irons having two handles with the edge croſs-wiſe on a ſtretching-bench, that a ſoft thin leather remains with a clear gloſſy ſurface free from all impurities. Other workmen then take the clean-ſcraped yufts on large clean tables, ſprinkle them on the fleſh-ſide with a gentle ſhower of freſh water from their mouths, and lay them ſlightly rolled up to moiſten. This done, the ſkins are taken ſeparately one after another, folded together, and worked and calendered in all directions to make them ſoft and pliant. They are then curried with a kind of wooden curry-comb, with ſharp irons fixed in leathers, like a card for carding wool, the ſkin being folded with the hair ſide outwards, by which the whole ſurface of the yufts acquire the croſs ſtrokes or trellis-like marks they are always ſeen to have*. Some work the ſkins with

* Others think this chequered impreſſion is communicated by a ſteel cylinder, a foot long and three inches in diameter, wound round with a multitude of wires, and in weight 300 or 400 pounds. Vide Beauſobre, finanzw. tom. i. p. 240.

the

the hands firſt dry, not ſprinkling them till they are mangled with the card. Laſtly, thoſe ſkins which are too harſh and ſtiff to the feeling, are more or leſs ſprinkled with linſeed oil, and thus are ready for the merchant*.

Another tannery of great importance is that of the SAFFIAN, or maroquin, which is carried on to a great extent in ſeveral towns of the empire, but particularly in Aſtrakhan, and in which they proceed in this manner: The ſaffians are dyed in Aſtrakhan of three colours, red, yellow, and black; but only in the two firſt colours, and eſpecially in the red is the aſtrakhan ſaffian-work famous, and next to the turkiſh excelling all others. Whereas the black ſaffians which are there prepared, are not better than thoſe wrought in Kazan or elſewhere in Ruſſia; and for that reaſon in Aſtrakhan no more are made than ſuffice for the demands of the town: while, on the other hand, great quantities of red and yellow ſaffians go to all parts of Ruſſia and out of the country, and likewiſe form a conſiderable article in the aſiatic commerce.

No other ſkins are taken for making ſaffians than thoſe of bucks and goats, and the preparation for each of the above-mentioned favourite colours is ſomewhat different: the red ſaffians demanding more labour and expence than the yel-

* Pallas, Peterſb. journ. tom. i. p. 61.

low;

low; they are, therefore, alſo dearer in price. The treatment of the red ſaffians is uſually in the following order: the raw hides are firſt laid in large vats, and have river water poured upon them, in which they are left to ſoak for three or four times twenty-four hours. They are then taken out, the water is drained and ſqueezed from each ſkin, and are ſcraped one by one on the ſtretching-bank with ſcraping-irons, uraki, quite gently on the fleſh ſide, in order to take away the groſſer impurities, but principally for opening the ſkin and to qualify it for the enſuing operation.

They now proceed to make the hair fall clean off chiefly by the application of lime. To a hundred hides is ſtirred in about half a buſhel of unſlacked lime in vats with river water, and the hides are laid in ſo as that the lime may as much as poſſible be equally diſtributed over all of them. The aſtrakhan Tartars let the hides lie in this lime-pit frequently three weeks; but it is well known, that their ſaffians are ſo harſh and liable to crack, and even ſcorched by it, that they are fit for nothing, and can only impoſe upon an inexperienced purchaſer. They then take out the ſkins, waſh them and carefully ſcrape off the hair, now become looſe, with wooden ſcrapers. It often happens, that the hair is not perfectly looſened by the firſt lime-lye, but that many tender ſtubbles and ſmall hairs are left remaining. In this caſe the hides muſt be put into freſh

lime-lye, and be left perhaps two weeks in it; the hair then comes off, and the hair ſide of the ſkin gets a green and very white appearance, but the ſubſtance is then alſo very ſoft, and the ſaffians, by this corroſion of the lime, are very little durable in compariſon of other kinds of leather.

The method now for taking the lime again out of the hides, is the ſecond treatment with dog-excrement or white gentian, which is carefully collected for this purpoſe. This excrement, which is indiſpenſably neceſſary, is pounded, put into a narrow not very large vat, warm water poured upon it, the maſs thoroughly ſtirred, and the cleanſed hides are put with it into another vat, ſo as that the diſſolved album grecum is ſpread and inſinuated over and between every ſkin. In theſe ingredients the ſkins muſt lie only twenty-four hours, or if the quantity of album grecum prove not rich, ſomewhat longer. The proportion here to be obſerved cannot be accurately aſcertained; for the ſaffian-makers are guided generally by eye-meaſure, and obſerve only that the water be very thick and turbid, and conſequently acrid enough. The hides come out of this corroſive much ſofter and thinner than they were, and are now freed from the force of the lime; but no time muſt be loſt in endeavouring to extract the corroſive likewiſe, that the hide may not be even more ruined by it than by the lime. They are generally very careful that the hides lie not too long

long in this corroſive, which they judge of by their eye from the pliancy and ſuppleneſs of them. As ſoon as the ſkins are lifted out, the unclean moiſture is carefully and forcibly preſſed out, and they are laid without loſs of time in a vat, wherein wheat bran is ſtirred to a tolerably thick gruel with warm water, in this they lie again about thrice twenty-four hours, whereby all the former defects are completely remedied, and the ſubſtance of the ſkin is ſofter and mellow. — All theſe particulars are in ſome meaſure of no other ſervice than to bring off the hair thoroughly clean from the ſkin.

Now follows the proper preparation of the ſkins taken out of the wheat-bran. This is done chiefly by honey. To eighty hides they take about twenty-five pounds of raw honey, boil it in a kettle, pour as much water to it as is neceſſary for giving it a due conſiſtence, and ſtir it for a pretty long time boiling on the fire. They then let the kettle cool, till they can but juſt bear the hand in it, and then pour the ſtill-hot honey-water on the hides lying ſingly in little trays by ladle-fulls till they have thoroughly imbibed the honey-water. When all the ſkins are duly drenched, they are thrown into a dry vat all together, laying at top a board with weights upon it, and covering the whole vat with felt, carpets, or furs, that the vapour during the fermentation may not eſcape; and in this manner the ſkins muſt ferment

once

once more thrice twenty-four hours. By this means they acquire the grain. From the honey-vat they are rinſed clean in lukewarm water, wrung as dry as poſſible, and ſteeped immediately in a moderately ſtrong pickle or brine made of common ſalt, in which they muſt be left five or ſix days. This time being elapſed the ſkins are taken out of the pickle and hung upon clean poles that the brine may drain out, as it would be thought injurious to ſqueeze it out with the hands. This done, the ſkins have received their whole preparation, and may now be dyed red, but not yellow; becauſe for the yellow ſaffians, as was ſaid before, the preparation is of another kind.

For giving the red ſaffians the colour, nothing is uſed but cochenille, or as the Tartars call it kirmiſs, and that in the following method: firſt, they boil a quantity of the herb ſalſola ericoides, by the Tartars called tſchagan, plentifully growing on the arid Aſtrakhan ſalt-ſteppes. To about four ruſſian vedros of water is put of this dried herb ſomewhat leſs than a pound, and it is ſet to boil for a whole hour, whereby the water acquires a dark-greeniſh colour, but betrays no acrimony to the taſte. The ſaffian maker only takes care that the water be not too deeply tinctured, and that when dropped on the thumb-nail ſhews only a ſcarce perceptible green; and in caſe it have adopted too many particles of the colour, it is drawn off, and freſh water put, in which the herb muſt

muſt boil again, till the decoction has received the due degree of ſaturation. The herb is then with a ſcoop taken clean out of the kettle, and then the previouſly nicely powdered cochenille thrown into a kettle of four ruſſian vedros to about half a pound, well ſtirred and freſh fire added, in which great attention muſt be paid, that the red ſcum, which ariſes from boiling, does not boil over, therefore conſtantly ſome is taken and again poured in, in order by this refrigeration to prevent the over-boiling and to allay the foam. After boiling for about an hour and a half, the water has obtained a ſtrong tincture; but, as much of it is boiled away, the kettle is filled up again with the remaining decoction of the herb tſchagan, and the thus attenuated colour boiled afreſh, till it is ſeen that the cochenille is perfectly diſſolved and the colour become thoroughly bright. Upon this, to the whole kettle is put about two lote of pounded and burnt alum into the dye, with which it is to boil about a quarter of an hour, and then the fire is taken from under the kettle, leaving only ſome hot embers, that the dye may retain as much heat as the hand can but juſt bear. This done, the ſkins prepared for dyeing are taken in hand, the dye poured by ladles into trays, one ſkin folded together after another with the hair ſide outwards, and then are worked in their portion of dye ſo long, till they have uniformly abſorbed all the dyeing particles, and only ſomewhat of a pale moiſture remains.

remains. The leathers being thus for the firſt time ſtained are quickly ſqueezed out, hung up ſingly acroſs poles, and when they are all done, they are directly taken for the ſecond time and imbued in the ſame manner with dye, and this treatment is repeated for the third and the fourth time; ſo that each ſkin gets four ladles of the dye. From the fourth dye the ſkins are no more preſſed out, but hung up entirely wet to be ventilated upon poles.

After the dye the ſkins are once more curried with the leaves of the tan-tree*, which the Armenians call belgè. The cruſhed or pounded dry leaves, which the aſtrakhan ſaffian-makers get from the Terek, are ſtirred in broad troughs to a thick gruel with river water, and the coloured ſkins laid in it, between each of them leaving a ſufficiency of the leaf-ooze; the tanner then goes barefoot into the troughs upon the ſkins lying on one another. In this tan or quas, as the workmen call it, the ſaffians lie eight days and nights, adding freſh tan every other day; ſo that four tans are neceſſary.

Here it muſt be obſerved that ſome Armenians who prepare ſaffians, for enhancing the quality of the red colour of their ſaffians, to half a pound of cochenille add two lote or rather more of ſorrel (or lutor or loter as they call it) in the dye-kettle, but it is uſually omitted in Aſtrakhan on account of

* Rhus cotinus.

its

its high price; for which reaſon the aſtrakhan ſaffians are excelled by the turkiſh in beauty of colour. Secondly, it is to be known, that inſtead of the leaves of the tan-tree bruiſed nut-galls are held to be ſtill more ſerviceable for giving the ſaffians the tan. By this means the colour is ſo durable as never to paſs away but with the leather; whereas the ſaffians prepared with the tan-tree begin ſoon to be diſcoloured. But the nut-galls are likewiſe too dear in Aſtrakhan to be cuſtomarily uſed by the ſaffian-makers. The kazan Tartars colour their ſaffians with red wood and tan them with the ſhrub uva urſi, but it makes the worſt ſaffians of all, as they preſently fade.

When the ſaffians are lifted out of the tan, ſtill the laſt work remains. They are firſt left ſome time in the air to dry, they are afterwards ſcraped on the ſtretch-bank with ſharp ſcrapers on the fleſh-ſide quite ſmooth and clean, then waſhed in running water, each ſkin duly ſtretched with pegs all round the edges, and thus left till they are dry.

The ſkins muſt now be ſmoothed on the hair-ſide with a wooden inſtrument for that purpoſe, and laſtly they are laid on a thick felt, where, with an iron heckle that has blunt points, thoſe little pittings, which the ſaffians are generally ſeen to have, are impreſſed on the ſame ſide. And thus they are ready for ſale, without being ſmeared with linſeed-oil as is mentioned in Gmelin's travels, which would infallibly ſpoil them.

The yellow ſaffians are little made in Aſtrakhan, as the demand for them is much leſs, and there are but few ſaffian-makers who know much of the matter. The dye which they make uſe of for this purpoſe is of the berries of a ſort of rhamnus (perhaps lycioides) which are brought from Perſia under the name of uloſcharr, and uſually bought for ſix to nine rubles the pood. The kazan Tartars colour their ordinary yellow ſaffians with the flowers of the yellow camomile *, which they gather under the name ſare tſchetſchiak, i. e. yellow-flower.

In preparing the yellow ſaffians, they obſerve in Aſtrakhan the following difference of treatment: 1. They make no uſe whatever of honey in the preparation. 2. They never at all put the hides into the ſalt brine. 3. Inſtead of the honey-preparation and the pickling, they lay the hides before the dyeing, in the foregoing manner, in the tan of the leaves of the kitzliar tan-tree, leaving them in it eight days. 4. For preparing the dye they have no need of the herb tſchagan, but the berries alone are boiled in clear water, of which to four ruſſian vedros of water about ten pounds are requiſite, and heighten the colour afterwards with three lotes of alum to every pound of berries. The dyeing is performed in the ſame manner as has been related with the red, and after the dyeing there is

* Anthemis tinctoria.

no

no need to lay the ſaffians in the tan, as having before received it. Nothing more is neceſſary than to ſcrape them clean, to work them thoroughly, to poliſh and to ornament them. The yellow ſaffians uſually are ſold at one ruble 20 kopeeks; but the red at ſomewhat more on account of the deatneſs of the dye, generally one ruble 80 kopeeks *.

SHAGREEN, which is likewiſe prepared in Aſtrakhan, moſtly by Tartars and Armenians, is alſo a very valuable kind of leather, the preparation whereof is not in uſe with the other nations of Europe. The proceſs is as follows:

For making ſhagreen, horſe-hides and aſs-hides are taken; but properly no more than the hinder back-piece are uſeful for this purpoſe, which is cut off immediately above the tail in nearly a ſemicircular form about an arſhine and a half upon the crupper, and rather leſs than an arſhine along the back. The reſt of the horſe-hide, from long experience being reckoned unfit for ſhagreen-making, is thrown away. The back pieces thus cut out are laid in a vat filled with clean water, and left in it ſeveral days ſucceſſively, till they are thoroughly ſoaked and the hair comes freely off. Then the hides are taken one by one out of the vat, ſpread againſt a board ſet ſlanting

* Pallas, Peterſb. journal. tom. vi. p. 20. Concerning the ſaffian-tannery in Kazan ſee Georgi's travels, tom. ii. p. 816.

againſt the wall, one corner of it reaching over the edge of the board where it is faſtened; and in this poſition the hair is ſcraped off with a blunt ſcraper, urak, and with the hair the upper pellicle; and the cleanſed ſkin is laid again in clean water to ſoften. This done, they take it a ſecond time out, ſpread one piece after another in the manner before deſcribed, ſcrape now the fleſh-ſide with the ſame ſcraping-iron, and the whole ſkin cleaned again on the hair-ſide with great care, ſo that nothing now remains of the ſoftened ſkin but the clean ſinewy web which ſerves for parchment, conſiſting of thick faſciculi of mellow fibres, reſembling a hog's bladder ſoftened in water. After this preparation they immediately take in hand certain frames, pæltzi, compoſed of a ſtrait piece and a ſemicircular bow, forming therefore nearly the ſhape of the ſkin, which is ſtretched in it with ſtrings as even and uniform as poſſible; and during this operation is ſprinkled between whiles with fair water, that no part of it can dry and occaſion an unequal extenſion. In like manner they finally wet them when all the ſtock of ſkins are ſtretched, and carry all the thoroughly wetted ſkins into the work-room. There the frames are one by one laid flat on the floor, ſo that the fleſh-ſide of the ſtretched ſkins is turned undermoſt. The other ſide is now thick ſtrewed over with the black, very ſmooth, and hard ſeeds of a ſpecies of the herb

gooſe-foot, or the greater orach* which the Tartars call alabuta, and which grows in great abundance and almoſt to man's height about the ſouthern Volga in farm-yards and gardens; and that theſe may make a ſtrong impreſſion on the ſkin, a felt is ſpread over them, and the ſeeds trod in with the feet, by which means they are impreſſed deeply into the very yielding ſkins. Then, without ſhaking off theſe ſeeds, the frames are carried again into the open air, and ſet leaning againſt a fence or a wall to dry, in ſuch manner that the ſides covered with the ſeeds face the wall and cannot be ſhone on by the ſun. In this ſituation the ſtretched ſkins muſt dry for ſeveral days ſucceſſively in the ſun, till no trace of moiſture is perceptible in them, and they may be taken out of the frames. Then, when the impreſſed ſeeds are beaten off from the hair-ſide, it appears full of little pits and roughneſſes, and has got that impreſſion which the grain of the ſhagreen ought to produce when the true poliſh has been given to the ſkin by art, and the lye now to be mentioned has been uſed previous to the ſtaining.

The poliſh is done on a ſtretching-bench or a board on treſſels, furniſhed with a ſmall iron hook and covered with ſome thick felts or voiloks of ſheep's wool, on which the dried ſhagreen-ſkin may lie ſoft. This is hung in the middle, by a

* Chenopodium album.

hole which has been occaſioned by the ſtring in the ſtretching, to the hook, and faſtened at the end by a ſtring with a weight or a ſtone, by means whereof the ſkin is allowed to move to and fro, but cannot eaſily be ſhoved out of its proper ſituation. This done, the poliſhing or raſping is performed by two ſeveral inſtruments: the firſt is called by the Tartars tokir, being an iron, crooked at one end like a hook and ſharpened. With this the ſurface of the ſhagreen is ſcraped pretty ſharply, in order to remove the moſt prominent rugoſities, which from the horny hardneſs of the dried ſkin is no eaſy matter, and in which great care muſt be taken not to ſhave away too deeply the impreſſions of the alabuta-ſeeds, of which there is imminent danger if the iron be kept too ſharp. As the blade of this iron is very narrow, it will make the ſhagreen rather uneven, and therefore after it, muſt be uſed the other ſcraper or urak, whereby the whole ſurface acquires a perfect equality, and only a ſlight impreſſion remains of the ſeeds, exactly as it ought to be. After all theſe operations the ſhagreen is laid again in water, partly for rendering it ſupple and partly to make the elevated grain appear: for the ſeeds having cauſed pits in the ſurface of the ſkin, the interſtices of theſe pits have loſt their prominent ſubſtance by the poliſhing or ſhaving, and now the points that were preſſed down, having loſt nothing of their ſubſtance, ſpring up above the ſhaved places,

places, and thus form the grain of the ſhagreen. To this end the pieces of ſhagreen are left to ſoften twice 24 hours in water, and are floated ſeveral times afterwards in a ſtrong and hot lye, which is obtained by boiling from an alkaleſcent ſaline earth, ſchora, found about Aſtrakhan. From this lye the ſkins are bundled warm one on another, and thus ſuffered to lie ſome hours, whereby they ſwell up and are ſoftened in an extraordinary manner. Again, they are left to lie 24 hours in a moderately ſtrong brine of common ſalt, by which they are rendered fine and white, and excellently adapted to receive any agreeable colour, which the workman haſtens to give them as ſoon as they are come out of the pickle. The colour moſt commonly communicated to the fine ſhagreen, is the ſea-green as the moſt beautiful. But the expert ſhagreen-makers have the art of making alſo black, red, blue, and even white ſhagreen.

For the green dye nothing more is neceſſary than fine copper filings and ſal-ammoniac. As much of the latter is melted in hot water as the water will admit. With this ſal-ammoniac-water the ſhagreen ſkins ſtill moiſt from the brine are bruſhed over on the ungrained fleſh-ſide, and when they are thoroughly wetted, a thick layer of copper-filings is ſtrewed over them, the ſkins doubled together, ſo that the ſtrewed ſide lies inwards, then each being rolled apart in a little felt or voilok, they lay all theſe rolls orderly on one another,

and preſs them equally by a conſiderable and uniformly preſſing weight, under which they muſt lie 24 hours. In this time the ſal-ammoniac-water diſſolves enough of the cuprous particles for penetrating the ſkin with an agreeable ſea-green colour; and though it be not ſtrong enough the firſt time, yet a ſecond layer of copper-duſt wetted with ſal-ammoniac water, with which the ſkins muſt lie again 24 hours will be quite ſufficient for ſtaining them thoroughly; when they may be properly cleaned, ſpread out, and dried. For giving the blue colour to ſhagreen they uſe only indigo, which to this end is not ſo prepared as for the ſilk and cotton dyers, but entirely without bones, only by ſtrenuous friction, is mingled and diſſolved with the other ingredients. They put about two pound of finely grated indigo in the kettle, pour cold water on it and ſtir it till the dye begins to diſſolve. They next diſſolve in it five pounds of pounded alakar, which is a ſort of barilla or raw ſoda-ſalt, burnt by the Armenians of Kitzliar and a worſe kind by the Kalmuks, adding two pounds of lime and one pound of virgin honey, all thoroughly ſtirred and ſet in the ſun for ſeveral days, during which the ſtirring is frequently repeated. The ſhagreen ſkins which are to be made blue muſt be put only in the natrous lye, ſchora, but not in the brine made of common ſalt. They are again folded up wet, and ſewed cloſe together round the edges with the fleſh-ſide turned inwards

and

the ſhagreened hair-ſide outwards, upon which they are three times dipped in ſucceſſion in an old ſtore-dye kettle, at every time preſſing out the ſuperfluous dye; laſtly, they are all brought into [illegible], which muſt not be preſſed out, and [illegible]ch the ſkin is hung up in the ſhade to dry; [illegible]or the laſt time cleaned, ornamented on [illegible] reduced to order. For the black [illegible] employ nutgalls and vitriol in the [illegible] the ſkins ſtill moiſt with the brine are thick ſtrewed with finely powdered nutgalls, folded together and laid one on another 24 hours. In the meantime a new lye of bitter earth-ſalts or ſchora is boiled and poured hot in little troughs or trays. In this lye each ſkin is waved to and fro ſeveral times, is again ſtrewed with pulverized nutgalls and again laid in heaps for ſome time, that the virtue of the galls may thoroughly penetrate the ſkins, which are then ſuffered to dry, and are beat out to clear them from the galls. When this is done, the ſkin is ſmeared on the ſhagreen-ſide with mutton ſuet, and laid a little in the ſun, that it may abſorb the fat. It is the cuſtom likewiſe with the ſhagreen-makers to roll up each ſkin apart, and to ſqueeze and preſs it againſt ſome ſolid body, in order to promote the abſorption of the unctuous particles. The ſurplus is again ſcraped off with a blunt wooden ſcraper. This being done, and the ſkin having lain a little while, a ſufficient quantity of iron-vitriol is diſ-

ſolved

ſolved in water, with which the ſhagreen is rubbed on both ſides, whereby it ſoon acquires a beautiful black colour: and now the edges and other defective parts are dreſſed. To obtain white ſhagreen the ſkin muſt firſt be ſteeped in ſtr[illegible] water on the ſhagreened ſide. Having [illegible] this, the ſkin is well rubbed on both [illegible] paſte of wheaten flour, and left [illegible] then all the paſte is waſhed away w[illegible] and the ſkin ſet to dry complete[illegible] ſoon as the ſkins are dry, they are gently ſmeared over with clean melted mutton fat, leaving them in the ſun to imbibe it, and are worked and preſſed with the hands to promote this effect. Afterwards the ſkins are faſtened one by one on the above-mentioned ſtretching-bench, warm water is poured over it, and the ſuperfluous fat ſcraped off with obtuſe wooden inſtruments, to which the warm water juſt poured on has much aſſiſted. By this proceſs the ſhagreen receives a fine white colour, and needs only in concluſion to be dreſſed and rubbed. This whiteneſs, however, is given to the ſhagreen, not ſo much that it may continue in that ſtate, but in order to impart to it a beautiful high red hue, as this end could not be obtained to ſuch perfection without that preparation. But the ſhagreens intended to be ſtained red muſt not be brought out of the natrous bitter ſalt lye into the brine, but muſt be made white in the manner above deſcribed, and afterwards ſupplied with

with the brine, in which they are left to lie about 24 hours, or leſs, from the dye. The dye is made with cochenille or kimiſs as the Tartars call it. The operation is begun by boiling for a full hour about a pound of the dried herb tſchagan, [illegible] plentifully on the ſalt ſteppes about with whic[illegible]nd is a ſort of kali*, in a kettle they are fo[illegible]contain about four common vedros the edges, ar[illegible]y the water acquires a greeniſh ſhagreen they [illegible] is then taken out and about following manner [illegible]ted cochenille put into the kettle, with which the above decoction muſt boil another full hour, diligently ſtirring it on the fire that the kettle may not boil over. Laſtly, to this are added 15 or 20 grains of the material which the dyers call lutter (perhaps orpiment), let the dye boil a little more, and then take the fire from under the kettle. Then the ſkins taken out of the brine are laid ſeparately in trays, pouring the dye upon them four times, rubbing it in with the hands, that it may be equally ſpread and imbibed, preſſing it out every time; which done, they are ready for drying and ornamenting, and ſell much dearer than the others†.

The ſeveral nations dwelling in Siberia employ alſo various methods in the preparation of leather. The Kalmuks, for example, tan their leather with the dregs of their kumiſs or with ſour milk, ſmoke

* Salſola ericoides.

† Pallas, neue Nord. Beytr. tom. i. p. 325.

it

it a little, and afterwards rub it with ſcraped chalk. But the moſt laborious and ingenious of their productions are the LEATHER VESSELS which they make in the following maner: the hides, as they come out of the water, are ſpread in the ſun; then the women who are ſkilled in the buſineſs proceed to cut out pieces of the ſhapes neceſſary for the veſſel to be made, ſewing them together with the ſinews of animals, and then drying them well in the ſmoke of a fire. In this manner they prepare not only veſſels with large mouths to which they give the form with their hands as the ſkin is drying, but alſo big-bellied leathern bottles for holding the kumiſs, and ſaddle-flaſks with a narrow neck, which for giving them their ſhape, they keep inceſſantly blowing up with great patience, at firſt over the fire, and then filling them with ſand or aſhes, and ornament them on the outſide with a variety of ſtrokes and lines. They even have the art of making large leathern tea-pots with a narrow ſpout, ſhaped like thoſe in common uſe with us, in a very ingenious manner. In order to prevent the leather from becoming flaccid and likewiſe dirty by the hot water, theſe pots are ſmoaked more ſtrongly and for a longer time; an operation which laſts for ſeveral days, till at laſt they are as tranſparent as horn and almoſt incorruptible. There are of the foregoing leathern bottles that hold five or ſix runlets*. — All kinds of good leather is

* Pallas, travels, tom. i. p. 321.

likewiſe

likewiſe prepared in various parts of Ruſſia; and the white-tanned leather made at Moſco from elkſkins, buckſkins, goatſkins, &c. is very much eſteemed. —The principal ſkins that are tanned into white-leather, are: ſea-lions*, ſea-bears†, ſea-otters‡, red§, croſs and black foxes, ſteppe-foxes‖, lynxes, rock-cats, blue houſe-cats, black cats, fiſh-otters and little otters♂, gluttons, martens, iltiſſes, ſables, ermines, ſnow-weazles, red weazles, white and grey hares, red and black moles, grey ſquirrels, black ſquirrels, ſtriped ſquirrels♁, zieſel-mice, fine curley black kirghiſian lambſkins☇, crimean grey lambſkins, &c.

XXXIV. WAX-BLEACHING. What a great quantity of wax is annually produced in Ruſſia is well-known: there are however but few eſtabliſhments for bleaching the raw wax. Moſt of it is exported in its natural ſtate, and partly conſumed in the country. Dmitri Andrèef indeed ſet up a wax-bleachery at Moſco; and there is one at Peterſburg on the Petrofſkoi oſtroff and another on the Peterſburg-ſide.

XXXV. CABINET-MAKING and COACH-MAKING. Theſe are here introduced merely for the ſake of an opportunity for mentioning that the Ruſſians have made very great progreſs in theſe mechanical arts; the extraordinary number

* Vuſchka. † Morſkoi-kot. ‡ Morſkoi-bober.
§ White, blue peſtzi. ‖ Korſaki. ♂ Norka.
♁ Burunduki. ☇ Baranki.

of

of coaches and chariots built at St. Peterſburg, Moſco, Kazan, and even in Siberia, make no ſmall parade; and in the durability and elegance of the workmanſhip they viſibly improve from year to year. The ruſſian joinery and cabinet work is always at leaſt one third cheaper than that done at St. Peterſburg or Moſco by german mechanics. What the Ruſſians fail moſt in, in regard to theſe works, is the fine varniſhing and poliſhing which art however is of late years pretty nearly attained. — In Tobolſk are made japanned articles in the chineſe taſte, and truly elegant.

XXXVI. GLASS-HOUSES. Of theſe here are not a few; yet not ſufficient for ſupplying the home conſumption, and therefore every year conſiderable packages of glaſs, bottles, &c. are imported. — Glaſs houſes are in the governments of Vladimir, Riazan, Tambof, Kazan, Penſa, Moſco, Vologda, Archangel, Peterſburg, and others; in Livonia, Little and White Ruſſia, and about ſix in Siberia. In the neighbourhood of Moſco alone are five, and in St. Peterſburg is a very large concern of this kind lately belonging to prince Potemkin, and another not far from Schluſſelburg.

XXXVII. PLATE-GLASS MANUFACTORIES. Near Peterſburg is one belonging to the crown, and another to a private proprietor. The former was eſtabliſhed during the reign of the empreſs Elizabeth, and works only for the court.

XXXVIII.

XXXVIII. STONE-CUTTING. For this purpoſe are three works maintained at the expence of the crown. One of them ſituate two verſts from Peterhof, another in Ekatarinenburg, in the government of Perme, and the third at the quarries of Loktevſk in the province of Kolhyvan. At all the three the cutting-mills are turned by water. At Peterhof are cut agates, porphyry, jaſper, garnets, amethyſts, &c. which come partly from Siberia, partly from the mountains of Olonetz, and ſome from abroad. At Ekatarinenburg are made moſtly on the crown's account, ſmall vaſes, chiefly of amethyſt, jaſper, garnet, quartz, marbles, &c. and the maſter artiſts there alſo cut a variety of trinkets and other trifles for ſale, ſuch as ſleeve-buttons, rings, hair-pins, ear-rings, bracelets, croſſes, ſeals, ſnuff-boxes, cane-heads, knife-handles, &c. But at Loktevſk are cut very large vaſes of porphyry and jaſper, ſome of them two arſhines in height, likewiſe pedeſtals weighing 300 pood, table-ſlabs, chimney-pieces, &c. Both the ſtone and the workmanſhip are here equally elegant. — At all three of them partly foreign, but at Loktevſk moſtly domeſtic emery is uſed; and the greater part of the tripoli is of that found in Siberia. The numerous architectural pieces in marble that are employed in the new magnificent buildings at St. Peterſburg, are moſtly wrought in Finland, in St. Peterſburg, and at Ekatarinenburg, where they are alſo ſplit and poliſhed.

XXXIX. EARTHEN-WARE MANUFACTORIES. Of theſe there is a conſiderable one near St. Peterſburg conducted on the crown's account; and two belonging to private proprietors are at Moſco. — Black earthen pans are in general uſe throughout Ruſſia, and are made at ſeveral places; but glazed veſſels are rare, though in many parts there is abundance of good clays. I ſhall juſt mention a few places where a great deal of earthern-ware is made: Conſtantinova on the Kliaſma, Arat on the Piana, and Vaſſillieva on the Volga, &c. The ware made at Moſco is not durable; and the ſame may be ſaid of the cream-coloured ſtone-ware which is deſigned to imitate the engliſh, but without the deſired effect. Another fabric of this kind, which produces a tolerable commodity, is at Reval.

XL. PORCELAIN MANUFACTORIES. Ruſſia has at preſent three. The grand imperial manufactory at St. Peterſburg, that belonging to M. Volkof at Savſk, and that ſet up by our countryman Mr. Henry Gardner at Dmitrof, with a capital of 50,000 rubles, in 1766. That at Peterſburg works chiefly for the court, coſts annually above 15,000 rubles and has 400 work-people belonging to it. Their ware has been gradually improving, and not till about 15 years ago has it been of eminent quality and beauty; the latter is to be particularly underſtood of the elegant modelling of the pieces in groups. But it muſt ſtill yield the palm in regard to whiteneſs, durability, and painting, to many of the manufactories abroad

abroad. That at Peterſburg formerly obtained its clay from the uralian mountains, but at preſent it is got from the Ukraine, whence alſo Mr. Gardner fetches it. The quartz is brought from the mountains of Olonetz. The produce of Mr. Gardner's manufactory comes at preſent tolerably well into commerce, and he has even made a complete ſervice for the court: his porcelain is cheap, has a pretty white glazing, but is not particularly ſubſtantial, and the painting will admit of improvement. — None of theſe manufactories have ſucceeded in imitating, either in quality or cheapneſs, the blue ſaxon porcelain which is in ſuch general uſe.

XLI. PITCH-DRAWING. This buſineſs is generally proſecuted by the boors in all the regions where there are large foreſts, particularly in Siberia. It is not only in the empire itſelf that a great quantity of it is conſumed, as all machines, carriages, &c. are greaſed with it inſtead of coom or hog's lard, and there is alſo a great conſumption of it in the tanneries; but much of it is beſides exported. What is principally uſed by the tanners is the birch-pitch, which is prepared in the following manner: the boors peel off from the ſtems of full-grown birch-trees the outward tender, white and reſinous bark, as high as they are able to reach with a ſharp broad knife fixed to a ſhaft, in the form of a lance. This bark being collected in heaps they put it together in

large pits, generally dug in a triangular ſhape in the clayey ſoil, five or ſix arſhines wide and four or five arſhines deep. At the bottom of theſe pits a large wooden veſſel is ſet, having a wooden cover with an aperture in the middle and channels cut in it, and done over with clay as well as the whole lower part of the pit. — In the ſame kind of pits likewiſe pitch is drawn from pine roots in regions where they abound. — In drawing the birch-oil, they put the quantity of birch-bark in ſuch manner in the pit as to lie in cloſe high heaps, they then ſet it alight, and when it is thoroughly burnt ſo that no more ſmoke aſcends from it, they cover all with earth and leave it to exſude. In woody regions; for inſtance, on the Kamma, where the boors trade in birch-oil, monſtrous large pits are made, and to the ſpace beneath the cover a paſſage is practiſed in the ground into which the people can creep and ſet veſſels under the opening of the cover, which when filled with the oil diſtilled per deſcenſum, are changed. Where great quantities of this oil are drawn, it is poured together in large pits lined with clay, or into vats, and when it has depoſed its ſooty dregs, the upper clear oil is drawn off, which proves as pure as browniſh petroleum, and is ſold about the country under the name of vetoſchnoi-dogt. In ſpacious birch-foreſts where are great numbers of windfalls, they collect the white, clean, remaining reſinous bark of the birch, which after all the wood with

the

the inner bark is changed into duſt and rottenneſs, lies ſtill like an entire tree, or large branches broken from the trunks remaining on the ground a perfect tube: and from this pure bark is obtained a clear oil almoſt totally free from all impurities*.

XLII. CHARCOAL KILNS. At all the ſiberian mines, as well thoſe belonging to the crown as to private perſons, and even ſome in Ruſſia, the timber for making charcoal, is felled by crown boors inrolled to the works, who are obliged to perform it for their head-money (170 kopeeks). Formerly they likewiſe made the charcoal; but ſince 1779 this is abrogated in ſuch manner, that though the boors ſtill make it under the inſpection of an officer, yet they muſt be particularly paid for it. According to the difference of the diſtricts they are paid by the kiln, from 7 to 15 rubles, and even more. It is univerſally charred in ſtacks. Each ſtack conſiſts of 20 ſquare fathom of wood, and ſhould yield of pine 75, of firs 64, and of birch and aſpin wood 51 or 52 baſkets of charcoal, each baſket being reckoned at about 20 pood. Moſt of the charcoal is of pine and fir, about Nertſchinſk alſo of larch, and in a few ruſſian diſtricts of oak. Such a baſket of coals coſts now at the mines in Siberia 40 to 100 kopeeks,

* Pet. journ. tom. ii. p. 69. 1782. Mr. Lepekhin has deſcribed the preparation of the birch-oil and pitch in a manner very circumſtantial and highly inſtructive to technologiſts. See his journal, part i. p. 329.

and upwards; whereas five-and-twenty years ago it was only at about half that price, and in 1724 at Ekatarinenburg it was had for no more than 10 kopeeks.

XLIII. SULPHUR WORKS. There were ſeveral of theſe formerly on the borders of the Volga and the Sok, which, I know not wherefore, have been ſuffered to go to ruin. Foreign ſulphur is imported, though the materials of it abound in the country; and, for inſtance, in Nertſchinſk there is a whole mountain of native ſulphur.

XLIV. POWDER MILLS. In the ſervice of the artillery are ſome conſiderable ones at St. Peterſburg, Moſco, Kazan, &c. Thoſe at Moſco produce yearly near 6000 pood, the pood at five rubles. Under Peter I. the pood of powder ſtood in no more than one ruble 60 kopeeks. There are alſo ſome powder works belonging to private owners, as at Kupovna on the Kliaſma, &c.

XLV. IRON FOUNDERIES. Almoſt at every iron mine, where there is a forge, caſt-iron ware is prepared in clay and ſand. Various ſorts of pans, pots, kettles, and other domeſtic utenſils, as alſo ſuch as are wanted at the mines and manufactories. At almoſt all the mines, particularly at thoſe belonging to the crown in Siberia and at Olonetz, they caſt cannons and other implements of artillery. At Petrozavodſk, in the government of Olonetz, is a grand cannon foundery under the management of Charles Gaſcoigne eſq. at a ſalary of

of 30,000 rubles per annum, where iron cannons are caſt of excellent workmanſhip by means of a cupola-furnace. The principal founts hitherto produced by the ſiberian, are ſome maſterly balluſtrades and railing, with a few ſtatues caſt at the foundery of M. Demidof.

XLVI. IRON WORKS. Here are meant all manufactories where raw iron is wrought into malleable iron and various inſtruments and utenſils. Of theſe are *: — BAR HAMMERS, that are connected with every forge. A great majority of the iron here conſiſts in thick bars, whereby the works reap infinite advantage, as many of them can be made at leſs expence of trouble, art, money, and people. Indeed ſeveral ſorted-irons are made, but proportionably in ſmall quantities, e. gr. quadrangular bar-iron and thin wheel-iron or ſtrakes. There are alſo, though not many, rollers and ſhears for cutting nail-iron. — STEEL HAMMERS. Though there has been long in Ruſſia at ſeveral works what is called uklad or raw ſteel, or even perhaps refined ſteel for the uſe of their own ſhops made merely of old iron, yet not compoſed, as has ſometimes been ſaid, of half raw iron and half bar iron. "For obtaining true

* A very curious article produced by the ruſſian workmen are the little bullets which are made in the village Pavlovſk on the Volga. They are no bigger than a pea, and coſt in Strahlenberg's time only half a ruble per dozen. At preſent one of them coſts as much.

" ſteel," it has been advanced, "they forge together " the bar-iron with an equal weight of raw iron, " without cooling the raw iron or remelting it, " bend it together if it be ſtraight, forge it again, " and repeat this three or four times." Whoever knows any thing of the matter, is ſenſible that ſteel is not to be made in this way. A company of Frenchmen, and ſome others, attempted ſome years ago to make cemented ſteel of ſiberian bar-iron. Theſe works, however, came to nothing. But ſeeing that every year great quantities of foreign ſteel were imported, by ſovereign authority in 1785, a ſteel manufactory was inſtituted at Ekatarinenburg on the model of that at Steyermark, where, from raw iron alone, a ſtrong condenſed ſteel like that of Steyer is prepared, and where ſince, as the works have been enlarged, as much ſteel can be made as is wanted for the empire, though the ores of thoſe parts have by no means the quality neceſſary for that purpoſe. — ANCHOR FORGES. Theſe are at ſeveral of the mine-works. Very large anchors are made both for the uſe of the navy and for exportation. — FLATTING MILLS. At which tin-plates are made for home conſumption. — NAIL-MANUFACTORIES. Moſt of the nails for the inland trade are made by the ſmiths in ſome diſtricts of the Volga, for which they generally uſe the ſlit iron from Siberia. There is a manufactory of nails near Narva. — WIRE MILLS are not numerous and make not

enough for the home demand; therefore wire and wire-works are imported *. — NEEDLE-MANUFACTORIES. There is a needle-fabric in the pronikoi circle; and a needle-maker lives in Reval. Nevertheleſs ſeveral millions of needles are imported every year. — There is yet no manufactory for SCYTHES in Ruſſia. In three years were imported at the ports of the Baltic alone 2,118,033 ſcythes. If we add to this what come in through Poland and over the Euxine, the number will amount to greatly above a million per annum. In Moſco a ſcythe coſts uſually fifty to ſixty kopeeks, but in Siberia they are not to be had for leſs than a ruble. At ſome of the mineries attempts were made to make ſcythes and ſickles; however they turned out but badly, and therefore the buſineſs was dropped. Yet am I perſuaded upon very good information, that as good ſcythes might be made here as elſewhere. — MANUFACTORIES OF FIRE ARMS. In the empire are four, all belonging to the crown. The eldeſt and the greateſt is at Tula. It was put on its preſent eſtabliſhment in 1717, and employs upwards of 4000 workmen *. Beſides muſquets and ſide-arms at Tula are likewiſe made bits for horſes, various kinds of locks, iron bedſteads, frames for ſophas, taburets, chairs, and ſtools of

* Concerning the wire-works of the boors on the Volga, ſee Georgi's travels, tom. ii. p. 831.

* Suyef's travels, tom. ii.

iron, ſhears, files, chains, &c. — So early as Peter I. 20,000 muſquets and 10,000 pair of piſtols were made every year at Tula, and at Petrozavodſk 12,000 muſquets and 6000 pair of piſtols. — In the ten years from 1770 to 1780, at Tula were made for the field-regiments (thoſe who never change their head quarters and ſeveral commandos, not included,) 112,893 muſquets for the infantry, 4584 for the yæger corps, 18,333 for the dragoons, 2347 muſquetoons for the fleet, 42,528 carbines, 324 blades, 63,073 pair of piſtols, 11,170 large ſcymetars, 51,639 ſabres, 933 hangers, and 95,590 ſide-arms for the infantry. The price of a muſquet for the infantry is four rubles, for the yægers five rubles, for the dragoons 397 to 409 kopeeks, a carbine 331 to 389¼ kopeeks, a pair of piſtols 369 to 384½ kopeeks, a dragoon ſabre 243¾ kopeeks, a huſſar ſabre 266 to 300 kopeeks, an infantry ſide-arms one ruble, a large ſcymetar 269 kopeeks. — The ſecond is Seſtrabek, forty verſts from Peterſburg; the third is at Petrozavodſk in the government of Olonetz, and the fourth in Orel. That at Seſtrabek has upwards of 400 maſter-workmen. — The works at Tula were by ſupreme command new built in 1782, for which 388,000 rubles were allotted; it delivers every year arms for 15,000 men. Its yearly expenditure amounts to about 100,000 rubles, for which, beſides the above, a conſiderable quantity of arms are made. The manufacturers

receive

receive for their own work 25,000 pood of crown-iron. The two fire-arm manufactories at Orel and Olonetz are ſaid to have each 500 workmen. At Tula are made various kinds of articles in ſteel, ſwords, cutlaſſes, &c. and are ſold at a very moderate price. — Other cutlers in Peterſburg, Moſco, Pavlovſk, &c. make alſo the like with a multitude of other utenſils and inſtruments in iron; but very few ſhears, no fine files, nor a hundred other ſteel wares, of which great quantities come from abroad.

XLVII. COPPER and BRASS WORKS. At ſeveral of the ſiberian copper founderies, as thoſe of Pokhedyaſchin, Demidof, Turtſchaninof, and Tverdiſchef, &c. many utenſils in copper and braſs are made. There are alſo nine in Moſco, one at Vologda, with ſeveral in Livonia and one at Iſchora near St. Peterſburg.

XLVIII. CANNON-FOUNDERIES. The art of caſting cannons has been known in Ruſſia upwards of 300 years; for "tzar Ivan Vaſſillievitch," ſays Leveſque, "attira à Moſcou des artiſans & des "ouvriers italiens; entre autres Ariſtote de Bo-"logne, qui fondoit des canons, & l'on en fit "uſage pour la première fois en 1482 contre la "ville de Felling en Livonie; les Suedois n'en "employoient que treize ans après*." — There is a very large cannon-foundery at St. Peterſburg

* Hiſtoire de Ruſſie, tom. ii. p. 538.

under

under the direction of the artillery corps. In the ſame city is likewiſe an imperial bronze manufactory.

XLIX. GOLD AND SILVER WORKING. There are five gold and ſilver workſhops at Moſco, and a few at St. Peterſburg. Here may be added the jewellers and the gold and ſilverſmiths ſuch as dwelt ſo early as in 1420 at Novgorod, and who now have principally their reſidence in Peterſburg, Moſco, and Uſtiug. In the laſt-mentioned town much ſilver has been wrought from time immemorial; particularly here were made a great number of ſilver boxes for ſnuff, &c. with engraved figures blackened, of which art they made a great myſtery. Theſe figures, and even whole landſcapes and maps were graved in the ſilver, and the lines drawn over with melted ſulphur, which fixed them black, and the whole work was afterwards poliſhed. Theſe drawings upon the ſilver look like a black copper-plate engraving. — Moreover the gold and ſilverſmiths of this country, by a decree of Nov. 25, 1795, are allowed to work lower indeed than the 84th aſſay eſtabliſhed in 1700, but not lower than after the 72d; higher at their own diſcretion, which, however, is never done. The 72d aſſay ſignifies the ſame as of 12 lotes.

L. CLOCK-MAKING. A workſhop for this purpoſe was ſet up at St. Peterſburg in 1765; and at

at preſent Mr. Robert Hynam is clock and watch-maker to the court. A ſtriking clock was made and put up at Moſco ſo early as the year 1404 *.

* La premiere horloge ſonnante fut placée à Moſcou en 1404; c'etoit l'ouvrage d'un nommé Lazare natif de Servie. Hiſt. de Ruſſie par Leveſque, tom. ii. p. 270.

VIEW

OF THE

RUSSIAN EMPIRE.

BOOK XII.

OF THE COMMERCE OF RUSSIA.

THE great importance of the ruſſian commerce, is ſo univerſally known, that it would be needleſs to expatiate on it here. Nor is it of leſs notoriety, that it was even very conſiderable in the remoter periods of northern hiſtory. The cities of Novgorod and Pſcove eſpecially became extremely rich and powerful by their trade, and were already connected with the hanſeatic league *. Riga, Reval, and Vyborg likewiſe carried on a

* In conſequence of this mercantile connection between Ruſſia and the northern Europe, the hanſe-towns in 1276 eſtabliſhed factories in Pſcove and Novgorod. The merchants of Hamburg, Lubek, &c. uſually ſailed to Narva and Reval, and thence proceeded through Dorpat and Pſcove to Novgorod. Muller's ſamml. ruſſ. geſchichte, tom. v. p. 418.

conſiderable

conſiderable traffic in early times; and none that are acquainted with hiſtory can be ignorant of the former flouriſhing ſtate of commerce in Taurida and its adjacent provinces. But never was the ruſſian commerce ſo important, ſo extenſive, and to ſo large an amount as ſince the commencement of the proſperous reign of Catherine II. — This commerce, however, is naturally divided into foreign and domeſtic; and theſe again into the maritime commerce on the Baltic and the White-ſea, on the Euxine and the Caſpian; and into the commerce by land with Poland, &c. with Perſia; with the Kirghiſes, and with China *.

* In Ruſſia commerce is followed both by foreigners and natives; of the former, however, thoſe who are not enregiſtered in the ruſſian company of merchants, can only trade by commiſſion. The Ruſſians very rarely deal with foreigners otherwiſe than one twelve months time; which contract they term barak; but they are cuſtomarily even paid beforehand. Foreigners likewiſe can only trade in the groſs or wholeſale, and are obliged to depoſit their commodities in the warehouſes belonging to the crown, and to pay warehouſe dues. All merchants who are inſcribed in the guilds, and conſequently are ruſſian ſubjects, were heretofore even liable to the capitation-tax; but, in virtue of an ukaſe of the 17th of March, 1775, they are exempted from it, and now in lieu thereof pay a per centage and a tax on their capital. The whole body of merchants is at preſent divided into three guilds. To the firſt belonged, till 1785, ſuch as ſtated themſelves as poſſeſſing a trading capital of above 10,000 rubles; to the ſecond thoſe who declared to between 3 and 10,000, and to the third whoever gave himſelf in as poſſeſſing from 500 to 3000 rubles. But in purſuance of the municipal regulation

SECTION I.

Of the Commerce by the Baltic.

NAVIGATION and commerce were purſued on the Baltic in the middle of the ſixteenth century, only from the (now ruſſian) ports of Finland and Livonia. But about the year 1553, in the reign of king Edward the ſixth of England, a ſhip was fitted out at London, at the inſtance of the famous navigator Sebaſtian Cabot, for the purpoſe of diſcovering a north-eaſt paſſage to China and India, and the chief command of it given to ſir Hugh Willoughby, and after him to Richard Chancellor,

---

gulation bearing date the 24th of April 1785, thoſe now belong to the firſt guild who declare to a capital from 10 to 50,000, to the ſecond thoſe who make return of a capital from 5 to 10,000, and to the third all who acknowledge their capital to be from 1000 to 5000 rubles. Capitaliſts, who deliver in their ſtatement at upwards of 50,000, and bankers as having 100,000 to 200,000 rubles, belong to the claſs of what are called nominal burghers, and is endowed with ſignal privileges. On all theſe capitals only a certain per centage is annually paid; but on a requiſition of recruits, the merchants are no leſs obliged to furniſh their quota to the general levy, than the boors and the burghers; only with this difference, that the merchants have the liberty of paying a certain fine inſtead of delivering the recruits, which was formerly fixed at 360, but by a later regulation is now 500 rubles per head.

the

the former, with all his company, having periſhed miſerably by the froſt, and the latter was loſt in the haven of St. Nicholas, in the White-ſea, where at that time was only a monaſtery. Thus failed the firſt enterpriſe of the Engliſh for opening a trade with Ruſſia. Soon after this tzar Ivan Vaſſillievitch cauſed the harbour of the archangel Michael to be conſtructed, granted ſeveral privileges to the engliſh nation, and thereby at length grew up the trading port of Archangel, ſince become of ſuch conſequence. The commerce here ſoon increaſed; and in 1655 the exports from this port alone to England were to the value of 660,000 rubles; from 1691 to 1701, on a yearly average, to the amount of 112,251 pounds ſterling; whereas the imports from England were eſtimated at only 58,884 pounds ſterling. The revenue of the crown at Archangel amounted annually to about 100,000 rubles, a ſum, which, according to the then value of money, may be deemed very conſiderable. The principal articles of export at that time were: pot-aſhes, caviar, tallow, wax, hides*, hemp, feathers, tar, yarn, beef, rhubarb, ſilk (probably chineſe or perſian), cork, bacon, cordage, furs, briſtles, &c. all rough commodities †. — But during the reign

* In the year 1674 the total amount of the exportation of yufts was ſomewhat above 100,000, but at preſent is near upon 200,000 poods.

† Bachmeiſter, on the arrival of the Engliſh in Ruſſia, Peterſb. journal, 1780, p. 248.

of

of Peter I. a great revolution took place in this trade; for, having built the city of St. Peterſburg, he drew thither the commerce of Archangel, and it became thenceforward the chief mart of the ruſſian empire. However, the commerce of Archangel has not entirely gone to ruin; nay, ſince the alteration and debaſement of the value of money, it amounts at preſent to a far greater ſum than formerly, as we may ſafely venture to ſtate the exports at two millions, while we can only reckon the imports at one fourth of that ſum, or half a million of rubles. To the former articles of exportation, others of various importance are now added, as corn *, linſeed, iron, flax, train-oil, ſail-cloth and other coarſe linens, tobacco, &c.

The commerce of St. Peterſburg began in a ſhort ſpace of time to be of great conſequence. Even in the year 1742, the exports amounted to about two millions and a half, and the imports to two millions of rubles. At preſent the former are eſtimated at from 32 to 37, and the latter at from 19 to 26 millions of rubles. The chief articles of the Peterſburg exports are: iron, hemp, flax, yufts, tallow, tobacco, wax, kaviar, cordage, ſoap,

* Corn is indeed not properly a new article of exportation from Archangel; for even ſo early as the reign of tzar Ivan Vaſſillievitch, rye was carried from that port to England, Holland, Sweden, Denmark, and France.

tar, hemp-oil, ſail-cloth and coarſe linens, furs, ſalt-petre, &c.

The commerce of Riga is likewiſe of no ſlight conſequence, amounting, if we include that of Arenſburg and Pernau, as belonging to the ſame government, with it, to an object of between ſix and ſeven millions of rubles, whereof the exports may be between four and a half and five, and the imports one and a half or two millions annually. The chief articles of export are, hemp, flax, cordage, pot-aſh, linſeed, hemp-ſeed, ſhip-timber, tobacco, corn, brandy, &c.

The imports in the year 1793 were here, as well as throughout the whole empire, much diminiſhed by the ukaſe prohibiting the importation of french goods, and all other articles of luxury, and which is ſtill in full force and effect, ſo that at Reval a great variety of thoſe commodities have been burnt as contraband. By a new ukaſe of Dec. 16, 1793, the price of brandy has been raiſed, as well as the import duties on foreign ſpirits, whereby it is aſſerted, that the revenue will gain an annual increaſe of five millions of rubles.

Mr. Herrmann in 1790 calculates the total of the exports from all theſe ports to amount annually to from four and a half to five millions, and the imports from one and a half to two millions of rubles: and the whole of the commerce, active

active and paſſive, of that government might then amount annually to between ſix and ſeven millions *.

At that time the cuſtoms in all the above-mentioned ports amounted to upwards of 800,000 rubles. From the above author we learn, that,

" In the year 1779 were brought into Riga alone, in ſpecie, 241,809 holland-ducats, and 634,214 alberts-dollars, which in ruſſian coin amounts to 1,501,543 rubles and 40 kopeeks.

" Reval and Habſal exported annually together for 600,000 rubles, and import for 800,000 rubles; of the former the principal articles are, corn, brandy, hemp, flax, wax, &c.

" The principal articles of importation are for about 50,000 rubles in ſalt, coffee, ſugar, &c. thoſe of exportation, rye, brandy, linſeed, flax, hemp, &c. The corn alone in many years amounts to 300,000 rubles. The preſent commerce at the two ports amounts annually to about 1,400,000 rubles, of which 800,000 are ſet down to the imports, and to the exports nearly 600,000 rubles. The duties in 1785 exceeded 182,000 rubles; but in 1775 were but little more than 45,000.

* The trade of the place is ſometimes alſo very conſiderably increaſed by orders from the government: for inſtance, in January 1794, an order came from court to deliver within two months, from the 12th of February to the 12th of April, 15,503 poods of freſh beef, 6362 poods of freſh butter, 8753 poods of buck-wheat-grits, for the ſupply of the imperial fleet, then fitting out.

" Narva exports annually for more than 500,000 rubles, in wood, hemp, flax, &c. and imports in all kinds of commodities for about 50,000 rubles.

" Vyborg and Friederichſhamm trade chiefly in deals; the annual exportation amounts to nearly 100,000 rubles, and the importation to full 200,000 rubles.

" The ruſſian commerce, in all the ports, which may generally be termed the Baltic trade, amounts at this time, therefore, to a ſum of 35,750,000 rubles; of which the exports make 21,200,000, and the imports 14,550,000 rubles.

" It is ſaid that the ruſſian furs are dearer in Peterſburg than in Dantzic, Hamburg, and Leipſic; and this is, becauſe ſo many furs are ſmuggled out of the country. " Though Ruſſia has " a ſurplus of furs, yet ſome ſorts are brought " thither from America, which, becauſe far-fetched " and dear bought, are preferred to the ſiberian *." In 1775, 46,460 american beavers and 7143 otter-ſkins were imported at Peterſburg. — No ſpecies of commerce requires ſo much ſpeculation as that in furs. Whenever a pope or a king of England dies, this trade all at once undergoes a complete revolution, by taking a new courſe, which laſts a twelve month, and then returns to its former channel. On ſuch an event, the cardinals at Rome and the nobility at London want ſo much ermine

* Beauſobre, finance, part ii. p. 450.

for

for their robes, that the whole ſtock in Norway, Sweden, and Ruſſia, is immediately bought up and ſent to London and Rome, for which reaſon all other kinds of fur conſiderably riſe in value *.

The trade in potaſh, rhubarb, tar, train-oil, tobacco, caviar, &c. was formerly a monopoly of the crown. But at preſent, ſalt, brandy, ſalt-petre, and gunpowder are the only products it reſerves to itſelf. Under Peter I. the trade in yufts, together with all ſiberian and chineſe commodities, were likewiſe included in this monopoly. From the following ſtatement of the exports and imports valued in rubles, the Peterſburg commerce will be more accurately viewed.

In the year	Exports amounted to	Imports.
1742	2,479,656	2,030,337
1749	3,184,322	2,942,242
1753	3,451,383	3,220,623
1754	3,577,939	3,279,097
1755	4,550,060	3,321,875
1757	4,598,120	3,193,375
1759	3,530,614	not procured
1764	5,885,243	5,459,522
1775	8,299,584	6,892,833
1776	not procured	5,256,521
1777	12,960,009	8,640,000
1779	not procured	8,856,801
1780	10,941,128	8,656,379

* Taube, account of the engliſh trade and manufactures, p. 112. Herrmann, ſtatiſt. ſchild. p. 429—434.

In the year	Exports amounted to	Imports.
1781	12,954,440	9,582,352
1782	11,467,347	12,204,482
1783	10,098,797	11,674,120
1784	12,941,513	12,172,345
1785	13,497,645	10,033,785
1786	13,360,011	11,775,577
1787	not procured	15,564,553
1788	20,351,937	15,474,396
1789	21,735,663	15,371,105
1790	21,641,779	22,964,618
1791	20,040,697	25,140,631
1792	21,694,667	22,262,738
1793	23,757,954	14,580,569
1794	25,565,767	21,741,176
1795	31,767,952	23,019,175
1796	37,110,333	26,355,890
1797	32,450,911	19,366,059
1798	36,552,476	25,936,020
1799	38,169,925	19,290,779

	Rubles.	Kopeeks
1793. Imported by ruſſian ſubjects, for	10,339,659	0
By the Engliſh, for	2,879,100	69
By the Danes, for	538,576	25
Exceſs of the exports over the imports this year	9,177,385	14
1793. The receipts of government from the cuſtoms, exciſe, and confiſcated goods	2,795,941	47½
1792. Theſe receipts were	4,109,079	36

The

The diminution of the year 1793 in theſe receipts by 1,313,132 rubles 88½ kopeeks was a neceſſary conſequence of the new regulations in regard to the importation of foreign commodities. For the ſame reaſon the number of the ſhips arrived was 148 leſs than in the year 1792. The ſum of coined gold and ſilver brought into the port of St. Peterſburg in the year 1793, is eſtimated at 57,600 rubles.

It muſt here be remarked, that theſe amounts of the imports, as well in the port of Peterſburg, as in the other ſea-ports, exceed not a little the true value; for, as, in order to prevent, as much as may be, all frauds at the cuſtom-houſe, a law has been made to oblige the importer to diſpoſe of the commodity which he has eſtimated at this or that value, to the cuſtom houſe officers, for the ſame value, with an allowance of ſo much per cent. profit, when theſe officers have reaſon to believe that he has rated the value below the truth, ſo, it not unfrequently happens, that the merchants enter their commodities above the price they paid for them, and pay the duties accordingly. Hence is evident that the true balance is more in favour of Ruſſia than appears from the cuſtom-houſe liſts. In the year 1778 there arrived 602 ſhips

1779	—	705
1780	—	554
1781	—	783
1782	—	634
1783	—	633

1784	—	890	
1785	—	679	
1786	—	856	
1787	—	783	
1792	—	606	of which 580 were Eng. alone.
1793	—	886	Eng. 536.
1797	—	874	Eng. 440.
1798	—	1053	Eng. 619.
1799	—	771	Eng. 456.

The receipts at the cuſtom houſe at St. Peterſburg and Cronſtadt amounted,

	Rubles.	Kopeeks.	
In the year 1775 to	1,698,626	14	In 5 years, from 1775 to 1779, theſe receipts amounted to 8,990,838 r. 48 k.
1780 -	2,077,430	16	
1781 -	2,374,300	9½	
1782 -	2,670,798	42½	
1783 -	2,966,188	28	
1784 -	3,109,385	—	
1785 -	3,082,698	—	
1786 -	3,278,050	60	
1798 -	4,219,325	—	
1799 -	4,684,184	—	

SECTION II.

Of the Commerce of the Euxine and the Caſpian.

THE commerce of the Euxine, or Black ſea, ſince its revival, is, in a manner, ſtill in its infancy. However, we may eſtimate the exportation,

ation, from all the ports there belonging to Ruſſia, at about one million; and the importation at one million and a quarter. The principal articles that find a vent here are, cannon, furs, ſalted beef, butter, cordage, ſail-cloth, kaviar, corn, and a variety of ruſſian manufactures, eſpecially iron, linen, cotton ſtuffs, &c. The imports are, wine, fruit, coffee, ſilks, rice, and all kinds of turkiſh commodities.

Over the Caſpian, commerce, indeed, is of a very ancient date; but at preſent is not ſo very conſiderable as it might be made. The exports amount to ſomewhere about 1,200,000, and the imports to 1,000,000 of rubles. The articles of exportation here are nearly the ſame with thoſe that find purchaſers on the Euxine, whereas we take in return ſcarcely any thing but ſilk.

As early as the fourteenth century the Venetians and the Genoeſe, by the way of the Caſpian, brought the indian, perſian, and arabian commodities, with which they ſupplied the ſouthern parts of Europe over Aſtrakhan, to their magazines at Azof and Keffa. From Aſtrakhan the goods went up the Volga, then by land as far as the Don, on which river they were next forwarded to Azof. Even the northern parts of Europe were furniſhed with the ſame aſiatic commodities by the ruſſian traders, over Aſtrakhan, who ſent them to their principal magazine at Viſbey, a hanſe-town on the iſle of Gothland. The devaſtations occaſioned by the wars of Timur, towards the end of the fourteenth century, cauſed the transfer of this trade

from

from Aſtrakhan to Smyrna and Aleppo; and the arabian commerce, for which theſe places, beſides, lay more convenient, never returned again to Aſtrakhan; but a part of the perſian trade was, ſome time afterwards, turned into its former channel.

The moſt conſiderable harbours and places of trade on the Caſpian, lie partly on the ruſſian, partly on the perſian, and partly on the arabian coaſts. The ruſſian are, 1. Aſtrakhan, the grand mart of the caſpian commerce. 2. Gurief, at the exit of the Ural; but few merchants, however, reſide here, for the ſake of carrying on a little trade with the Kirghiſtzi, &c. 3. Kitzliar, at the diſemboguing of the Terek. The ſhips bound for this place uſed formerly to run into the ſouthern mouth of the Terek; but, becauſe the mouths of that river are now choaked up with ſand, the goods are landed in a little bay about 60 engliſh miles from Kitzliar. This latter place draws from Aſtrakhan the european commodities wanted for the perſian trade; as alſo corn and other neceſſaries of life for the ruſſian colonies on the Terek, and for the inhabitants of the neighbouring chain of mountains of Caucaſus. Beſides the goods which are ordinarily ſent from Kitzliar into the perſian harbours, the inhabitants carry on a ſmuggling trade to Shamachy, Derbent, and even as far as Teflis in Georgia, but is extremely inſecure, as the caravans are frequently plundered by bands of robbers that infeſt thoſe parts. — The

perſian

perſian havens are, 1. Derbent, in the province of Shirvan; but veſſels can rarely approach the ſhore, on account of the ſands and ſhoals, and are obliged to lie at anchor two or three miles off. Therefore not more than three or four ruſſian ſhips come annually to this place, which are uſually laden with corn, bringing with them likewiſe iron, ſteel, and lead for the Leſghis and other tartarian nations dwelling on this ſide Caucaſus. 2. Nieſcovaia priſtan, or Niſebad, is a haven formerly much frequented by the Ruſſians; the merchants particularly from Shamachy came hither in great numbers, with european commodities. — 3. Baku is reckoned the ſafeſt harbour of the Caſpian, becauſe ſhips may lie at anchor in ſeven fathom water; yet in ſome places the entrance is dangerous on account of ſhallows, iſlands, and ſandbanks. Baku, like Derbent, is inhabited by Perſians, Tartars, and ſome few armenian merchants. The principal articles of export by which the traffic of this place is chiefly ſupported, are the naphtha, and the fine rock ſalt, both of which are collected on the eaſt ſide of the bay. The inhabitants indeed cultivate ſaffron and cotton, but not with any conſiderable advantage. The trade of Baku is doubtleſs of more conſequence than that of Derbent, though in fact but very confined, and is moſtly carried on with Shamachy, whence it gets ſilk and ſilk-ſtuffs. A ruſſian conſul uſually reſides here. — 4. Sinſili, or Enſeli, is truly but a wretched

place, yet it is the moſt frequented of all. Formerly veſſels entered the bay by the canal; but, as that paſſage is now obſtructed by accumulated ſands, they remain at anchor in the road. Enſeli lies at the diſtance of only a few verſts from Reſht, the chief town of the province of Ghilan, which produces the beſt ſilk and the fineſt ſilk-ſtuffs of all theſe parts. At Enſeli there is alſo a ruſſian conſul; and the Ruſſians trade here to great advantage. Commodities go from hence to Reſht, which town ſupplies the bordering provinces of Perſia, and the neighbouring independent ſtates as far as Georgia, with european commodities; thoſe goods excepted which go immediately from Aſtrakhan, through Kitzliar and Moſdok, into the adjacent diſtricts of Georgia and the neighbouring mountains. — 5. Farabat, and 6. Medſhetizar, on the ſouthern coaſt, in the province of Mazanderan, are mere villages. In the latter, however, a conſiderable trade is carried on, on account of its vicinity to Balfruſh, the chief town of the province, whither the Ruſſians and the Armenians bring their wares. Hither come likewiſe merchants from Kiſkan, Iſpahan, Schiraz, Korazan, &c. bringing with them perſian and indian products. The province itſelf exports ſilk (which, however, is far inferior to that of Ghilan), and rice and cotton. — 7. The bay of Aſtrabat, where the Ruſſians land and then travel to the capital town of that name. The products of this province, and their

exports

exports and imports, are nearly the ſame with thoſe of Mazanderan. Aſtrabat trades moſtly with Kandahar. — The tartarian havens are, 1. The balkanſkoi bay; and, 2. Manguſhlak; both of which, but eſpecially the latter, have a very ſecure roadſtead. The Ruſſians viſit the iſlands in the balkanſkoi bay, which are moſtly inhabited by pirates of the race of the turkoman tartars; theſe iſlands yield rice and cotton, and one of them, named Naphthonia, has a great quantity of naphtha. It is thought that the commerce of theſe parts might be greatly extended, to the advantage of the Ruſſians, as it would be far more convenient to trade from hence with the bukharian Tartars, than from Orenburg, through the country of the Kirghiſtzi. The commerce of Manguſhlak is more conſiderable. The neighbouring Tartars bring the products of their own country, and thoſe of Bukharia too, viz. cotton, yarn, ſtuffs, furs, hides, rhubarb, &c. The principal commodities that are brought from Aſtrakhan to the ports of the Caſpian, are, dutch, french, ſileſian, and engliſh cloths, vitriol, ſoap, alum, ſugar, ruſſian leather, needles, ruſſia linens, velvet, glaſs ware, paper, ſome few furs, hides, a ſmall matter of tea, corn, butter, wine, brandy, wooden veſſels for houſehold uſes, ſea-horſe-teeth, iron, copper, tin, lead, iron ware, clocks, indigo, cochineal, &c. The moſt material articles of importation are, ſilk, (moſtly raw) from Shirvan and Ghilan, lamb-ſkins from Bukharia, rice,

dried fruits, ſpices, ſaffron, a trifling matter of ſalt, ſulphur, and naphtha. The Indians and the merchants of Khiva bring occaſionally gold and ſilver in ingots and bars, gold-duſt, precious ſtones, and pearls, to Aſtrakhan. — In the year 1770, the exports and imports of the whole commerce, both by ſea and land, to and from the Caſpian ſea, amounted only to about 400,000 rubles; in the year 1768, already to upwards of 800,000, and in 1775, to more than a million of rubles; without reckoning the contraband trade. At preſent it is undoubtedly at the ſame amount.

Soon after Peter I. had ſubdued the northern provinces of Perſia to his dominion, he ſought to induce the Engliſh to engage in a commerce with Perſia, over Ruſſia *; but the many unſucceſsful attempts that had been made ſince the ſixteenth century, and in which large ſums had been loſt, deterred them from entering into the deſigns of that monarch. The great advantages expected by the emperor to accrue from his new conqueſts, now ſuddenly vaniſhed; and, to add to his diſappointment, theſe provinces, which at firſt brought in a net profit to the crown of 600,000 rubles, now became burdenſome to it. The inhabitants abandoned the place of their nativity; agriculture and the breed of the ſilk-worm lay neglected, and

* He even inſtituted a ruſſian mercantile company, which conſiſted of 400 actions, each of them at 150 rubles, and which was not aboliſhed till 1762.

a great

a great part of the garriſon died from the unwholeſomeneſs of the atmoſphere; ſo that within the ſpace of 14 years, 130,000 Ruſſians are ſaid here to have found their graves. This moved the empreſs Anna to relinquiſh theſe provinces to Nadir Shah, in conſideration of obtaining ſome advantages more important to commerce, ſuch as, among others, the liberty of import and export, duty-free, in all the harbours of the Caſpian. Ruſſia now gained more from theſe provinces by trade, than before by the conqueſt and poſſeſſion of them. Shirvan, Mazanderan, and Ghilan, cultivate the fineſt ſilk, rice in ſuperfluity, and gladly take the ruſſian products. — Encouraged by the proſpects this happy change afforded, and hoping to profit by favourable conjunctures in the court of Perſia, at the ſame time conſidering the ſmall expence of carriage in Ruſſia, Mr. John Elton formed the project to deliver perſian products, via Peterſburg, to the Engliſh from the firſt hand, and conſequently cheaper than by getting them of the mercenary Armenians, over Smyrna. He promiſed himſelf a great vent for engliſh commodities, with the protection of the Shah, who was ſomething more than a bold and ſucceſsful rebel; and, having perſuaded the engliſh factory at St. Peterſburg, then the Ruſſia company in London, and the ruſſian court itſelf to concur in this project, in the year 1742 he built a ſhip at Kazan, freighted it with a cargo obtained from Peterſburg, and

and ſailed to Aſtrakhan. The profits ariſing from the ſale of the firſt cargo were not ſuch as to abate his hopes of making a rapid fortune. In the mean time the new commerce ſtruck root; at laſt, however, Elton himſelf ſpoilt all, by ſuffering himſelf to be caught in the ſnare laid for him by the envious Armenians, who had hitherto vainly attempted to prevent the ſucceſs of his enterpriſe. Nadir Shah found Elton a very fit inſtrument for putting in execution one of his darling ſchemes. He made him an admiral, cauſed a ſhip of twenty guns to be built, the command of which he gave to Elton, with orders to hoiſt the perſian flag, and to oblige all the ruſſian veſſels to ſtrike ſail to it as paramount over the whole extent of the Caſpian ſea. In vain did the factory ſend him letters of recal; in vain did they offer him riches and promotion from the britiſh court; he remained in Perſia, where he out-lived Nadir Shah; after whoſe death he ſoon fell a victim, as his favourite, to the rage and reſentment of the oppreſſed ſubjects. Elton, by undertaking the bold plans of his new ſovereign, muſt neceſſarily have excited the indignation of the ruſſian court. If it had before approved and encouraged the ſpecious enterprize, on the ſcore of benefits to ariſe from it to the ruſſian empire, it now prohibited the Engliſh from the farther proſecution of this traffic; not from jealouſy or envy, but for very juſt and ſolid reaſons. The nation now carries on this lucrative commerce itſelf;

itſelf; and Baku and Sinſili, or Enſeli, are the principal ports to which the Ruſſians trade.

In the year 1785 were brought into the ruſſian ports of the Euxine, by the Dardanelles, in various articles, to the amount of 806,330 piaſters; and to the value of 735,117 rubles in ruſſian goods, exported from them to the Turks. But, as the tranſport from the Dardanelles does not make up the whole of the ruſſian commerce on the Euxine, I have ſtated it at the above ſum. — By the ukaſe of the 22d of February, all perſons engaged in commerce and foreigners of every denomination are allowed full liberty in the exerciſe of their religion, together with all the rights, privileges, and advantages in the ports of Kherſon, Feodoſia*, and Sebaſtopol, that are enjoyed at Peterſburg and Archangel. The trade of the Krimea was heretofore uncommonly gainful and extenſive; for, in the eleventh century, when a part of this peninſula fell under the dominion of the Polovtzi, better known from the byzantine hiſtory under the appellation of the Komanians, they granted the Genoeſe, in return for the promiſe of the payment of certain tributes, the permiſſion to erect warehouſes, which, in proceſs of time, grew into towns and fortreſſes. In this way, among others, Kaffa roſe to that greatneſs which it has preſerved to our times, and which, eſpecially in the thir-

* Or Kaffa.

teenth century, diſtinguiſhed it as the foremoſt of the ſtaple-towns of thoſe regions. But by little and little the Genoeſe were driven out of the Krim, and with them the flouriſhing commerce of theſe parts took its flight, till ſuch time as Peter the great, having got poſſeſſion of Azof and laid the foundations of Taganrok, attempted to get a ſhare in the commerce of the Euxine by extending the ruſſian traffic thither, which was one of the projects he had at heart. This attempt, however, proved entirely abortive, on his being forced to ſurrender Azof by the treaty of Pruth, after the unſucceſsful campaign of 1711. The revival of the trade of the Krim, or rather of Taurida, was reſerved for the brilliant reign of Catharine II. when, on the re-acquiſition of Azof and Taganrok in 1774, and with them the fortreſſes of Kinburn, Kertſh, and Yenicali, and a great ſtretch of country between the Bogue and the Dniepr, it began again to rear its head; but it did not thoroughly revive till 1782, when this commerce was ſettled on a firm and laſting baſis, and the grandeſt proſpects opened to it, by the obtention of the whole Krimea. This commerce, however, cannot be puſhed to any conſiderable degree of conſequence, till the navigation of the Euxine is entirely free to Ruſſia, and till Taurida and the neighbouring regions, have greatly increaſed in population. But then the ruſſian commerce in the Euxine cannot fail of becoming of immenſe importance.

portance. Then the ſouthern provinces of Ruſſia will have an opportunity to export a great part of their ſuperfluous products; to carry on a conſiderable trade with the Poles and the Auſtrian provinces; to ſupply Conſtantinople with the neceſſary articles, eſpecially corn; to traffic with the Greeks in the Levant, and to carry a part of the ſiberian iron, hemp, linen, flax, &c. by the Dardanelles directly into the Mediterranean, and thereby to furniſh Spain, France, and other countries, quicker and cheaper with ſhip-timber, than by the Baltic and the German ocean. Till 1780 the ruſſian commerce on the Euxine having been gradually on the decline, or at leaſt ever fluctuating, was then in a total ſtagnation, though ſomewhat upheld ſince the treaty of peace concluded at Kainardji, principally by ſums of money advanced by Ruſſia, and by the eſtabliſhment of a ruſſian mercantile houſe at Conſtantinople, under the firm of Siednof, James, and company. According to the cuſtom-houſe books,

In the year		the exports amtd. to rubles kop.		the imports, rubles kop.
1776		369,822 88		87,143 29
1777		242,818 44		83,245 90½
1778	the trade ſuffered a total interruption.			
1779		161,690 38		90,644 74½
1780		130,187 —		105,470 58
	Total	903,818 70		276,504 52
Conſequently one year with another		225,954 67		69,126 13

Therefore

Therefore at that time the whole commerce of one year amounted to about 300,000 rubles; but in the years 1785 and 1786 already to a million and a half; and, if we add to this the contraband trade, it amounted previouſly to the breaking out of the war, certainly to above two millions: whence it appears how greatly this commerce has increaſed ſince the taking poſſeſſion of the Krim. Yet it will never attain to any vaſt importance till Ruſſia, by one way or another, has got a power ſuperior to that of the Turks on the Euxine.

Mr. Soimonof has pointed out the harbours where, in his opinion, and indeed from actual experiment made by himſelf, ſhips may moſt conveniently turn in, deliver their cargoes, and take a freſh freight on board. Niſovaia priſtan, or the coaſt of Niſabat, is not proper for ſhips of the conſtruction he propoſes; but if the merchants mean to continue their trade to that place, and for that purpoſe prefer the old buſſes, to hukers and galleots, experience may ſhew them, that his veſſels will not be leſs ſerviceable to them, and at ſome diſtance from the coaſt may ride ſafely at anchor. It would be of great advantage to form a harbour and eſtabliſh a place of trade at one of the mouths of the river Kur, as it was the intention of Peter the great to do. Thither all the commerce of Georgia and Shirvan might be drawn; and this place, in time, would become a conſiderable mart for the whole weſtern coaſt of the Caſpian.

Caſpian. Even if ſhips were to lie in the Apſheron canal, as they may do in great ſafety; their cargoes might be carried thither over land from Shamachie. Though the diſtance be greater than from Niſovaia priſtan, yet the way is not ſo mountainous. Another harbour, in the gulf of Sinſili, would be very commodious for Ghilan, and for the tranſport of commodities to and from Perſia. However, Mr. Soimonof does not inſiſt upon this, becauſe in his time the trade was already eſtabliſhed there, and Ghilan was under the ruſſian dominion. Thirdly, the city of Aſtrabat lies very convenient for a harbour, and for trade to the eaſtern diſtricts of Korazan, Bukharia, Samarkand, Balch, and even to India, for which purpoſe, if this place be not ceded to Ruſſia, as it ought to be in conformity with the treaty concluded with Iſmael-Bey, a freſh treaty ſhould be made with Perſia. — The eaſtern coaſt of the Caſpian is not taken into conſideration by Mr. Soimonof, on account of the faithleſs and piratical Trughmenians, and becauſe the neſt of robbers at Khiva preclude all poſſibility of trading thither. Only to Tuk-karagan the trade might be carried on in the ſame ſort of veſſels as formerly, for which the harbours in the iſland of Kulali lie commodiouſly enough, and would ſave them the neceſſity of expoſing themſelves to dangers on the coaſts of the firm land. — Mr. Soimonof then propoſes to eſtabliſh a magazine on the iſle of

Shilot in the Apſheron-canal; and there to keep a poſt-boat, with an under officer, a cook, and ſix ſailors, to viſit all the havens, and bring intelligence from them to Aſtrakhan. Permiſſion, he thinks, ſhould be granted to ſuch perſons as wiſh to maintain themſelves by catching fiſh and ſeals, to build houſes and ſettle there. There would be no want of people who would gladly avail themſelves of ſuch a licence. In the various arms of the river Kur they might lay the ſame ſort of uſtiugs, or fiſh-ſnares, as are uſed on the Volga, as the beluga, the ſturgeon, and the ſevruga of the Kur, ſtrive upwards as they do in the Volga. Theſe fiſh are at ſome ſeaſons in ſuch abundance, that one may hook them out of the water with nothing but a boat-hook, as Mr. Soimonof himſelf often has ſeen done in the canal of Sinſili. But the people there only take them when they are in want of glue for their own uſe. For the purpoſes of this fiſhery particular veſſels muſt be kept, as well to go from the Apſheron-canal to the Kur, as alſo to bring the ſalted or dried fiſh to Aſtrakhan, or to other ruſſian ſettlements on the Caſpian. Mr. Soimonof thinks the culture of the ſilk-worm and of ſaffron might be managed to much greater advantage than they are at preſent.

Although it is the ſingular and unprecedented good fortune of Great Britain, that her empire in India ſtands unrivalled amidſt ſurrounding and contending

contending nations—although Sweden, Denmark, Holland, France, Portugal, and Spain, have in a great meaſure failed in ſupporting rival eſtabliſhments in India, we ſtill may receive a fatal wound from the bold and enterpriſing ſpirit of Ruſſia, who has now acquired ſo much weight in the political balance of Europe, that we regard her aſpiring and ambitious genius with wonder and aſtoniſhment! Enlightened by ſcience, improved by arts—and by an extenſive and lucrative commerce, riſing faſt to opulence, ſhe is now become a mighty nation; and it may be conſidered as certain, that in the period of a very few years ſhe will greatly injure the britiſh trade to India—for it is known to be a fact, that the Ruſſians carry on a very lucrative trade on the Caſpian. For a long time, indeed, it ſuffered very ſerious loſſes from the kozak hordes, who often interrupted and plundered the ruſſian caravans, on their way to Aſtrakhan; but at length theſe robbers were completely ſubdued, the roads became ſafe, and the commerce of Perſia again revived and centered in Aſtrakhan; and we find merchants flocking thither from Bulgaria, Krimea, Armenia, Hindoſtan, and various parts of India, to traffic with the Ruſſians.

A company was formed by Peter I. to which he granted an excluſive privilege of trading to Aſtrakhan and Perſia; however the empreſs Catharine II. annulled this excluſive right granted

by Peter, and allowed all her ſubjects to participate in that trade. Factories, at a great expence, were built at Aſtrakhan, and conſuls ſettled at Baku and Sinſili: this commerce is, however, greatly injured by a contraband trade carried on in Shamakia, and other perſian inland towns, by the armenian merchants; who, knowing the country and the language, have a conſiderable advantage over the Ruſſians. The city of Aſtrakhan is built on an iſland formed by the Volga, at its diſcharge into the Caſpian; and as through the Volga all articles of commerce from the Baltic ports are carried thither, with great eaſe and ſafety, the city of Aſtrakhan is in conſequence become one of the moſt conſiderable marts of the globe, and is inhabited by Ruſſians, Turks, Armenians, Perſians, Tartars, and Jews, not to mention emigrations from Kabul and the province of Oude.

At Raſcht, the Ruſſians have alſo a factory, with a body of ſoldiers, and a church of their own: they carry thither european goods, which ſell at a great advantage, and bring from thence ſilks and ſtuffs, manufactured at Ghilan, which are eſteemed the beſt in Perſia; but the trade to China is certainly the moſt lucrative and important branch of their commercial intercourſe with Aſia. The principal mart at preſent is Kiachta, ſituated on the frontiers of the two empires, and the Ruſſians take care to ſupply it with all kinds of european goods, which the Chineſe buy up with avidity. The

The amount of this trade to Ruſſia, in exports and imports, is valued at one million pounds ſterling annually; and to this circumſtance alone we may in a great meaſure attribute the preſent cramped and humiliated ſtate of the company's trade in China: for ſo long as the Chineſe can be furniſhed with every article that Europe affords, they will never ſuffer the Engliſh, whom they call "a reſtleſs diſcontented ſet of people," or indeed any other european nation, to exceed the preſent preſcribed limits, which are confined to Canton. Various have been the ſchemes and plans ſubmitted to the directors for extending the export of britiſh articles into China; and many experiments had actually been tried with the mandarines, which, after producing humiliation, impriſonment, a great loſs to the company, and perſonal inſult to their ſupercargoes, proved abortive.

Numerous obſtacles oppoſe our trade to the interior parts of China; but Ruſſia is the country for ſucceſsful plans, and ſurmounting obſtacles, be they ever ſo gigantic. In the year 1783 was formed one that aſtoniſhed all Europe.

Driven from their ordinary roads, by the war which Hyder Ally and the Britiſh were making on one another, ſome merchants to the north of Bengal, after having traverſed immenſe countries, had come with their goods to the frontiers of Siberia, where they had been received with tranſport, and they had promiſed to return. The

board of trade at St. Peterſburg being informed of this novelty, had immediately projected a branch of commerce with the Indians; and to forward it, they had fitted out a fleet at Aſtrakhan, to ſeize upon Aſtrabad, which is the moſt ſoutherly port of the Caſpian, and the ſpot whither the Indians could moſt conveniently come to trade; but the Kadſchares, an invincible people, who abhor ſlavery, and can defend themſelves againſt it, diſperſed the fleet, and the enterprize had the moſt miſerable iſſue. In the mean time the court of Ruſſia was not diſcouraged by that, and till a more favourable opportunity, delayed a ſecond attempt, on which ſhe entered with ſo much the more propriety, as the inland navigation eſtabliſhed between St. Peterſburg and Aſtrakhan muſt extend the views of Ruſſia to the trade of India; becauſe, by eſtabliſhing this communication, ſhe removed the obſtacles the moſt difficult to be ſurmounted by the commerce that may be carried on in this quarter: but if Ruſſia ſucceed in this attempt, the India trade will infallibly receive a blow in England, unleſs our company oppoſe the plans of Ruſſia, by promoting a commercial intercourſe with Perſia, augmenting their eſtabliſhments at Buſſorah and Buſhire, which, although at preſent in a declining ſtate, may, if properly attended to, be productive of great and important benefit to Great Britain: our trade to Ormuz might alſo be revived; and

as

as the preſent ruler of Schiraz is diſpoſed to protect and encourage Europeans to trade thither, why might not the Bengal government cultivate the friendſhip of ſo liberal a prince?

SECTION III.

Of the Commerce by Land.

THE commerce by land with the Poles, Pruſſians, &c. is conſiderable. Ruſſia takes from theſe countries commodities for about two millions of rubles, and carries to them for ſcarcely 500,000. The principal objects of importation are, ſcythes, cloths, linens, hemp, flax, &c. the two laſt of which products are again ſent off from Riga.

The commerce by land with Perſia paſſes over Kitzliar and Moſdok, and Ruſſia receives principally, by the ſame way, ſilk. The exports amount to about 100,000, and the imports to 200,000 rubles*.

The commerce with the Kirghiſes is moſtly carried on in the way of barter, and this chiefly in the ſiberian fortreſſes of Orenburg, Troitzk, Peterpavlovſk, Yamiſheva, Semipalat, and Uſtkamenogorſk†. Goods to about a million and a

* In the year 1777, ſilk was imported, over Kitzliar alone, to the amount of 125,104 rubles.

† Somewhat of a concern in ſilver and gold enters into this commerce; not as money but as articles of trade. In Semipalatinſk, for example, in 1777 for 72,015 rubles in bars of ſilver were imported.

half

half rubles are exported, and imported to juſt the ſame amount *. The Kirghiſes bring principally horſes, horn-cattle, ſheep, and very coſtly ſheep-ſkins, receiving from Ruſſia in return woollen cloths, iron, and a great quantity of houſehold goods and other european commodities.

The chineſe commerce (which, however, is at preſent interrupted) is likewiſe a mere barter, but very conſiderable. We may admit, without much danger of miſtake, that Ruſſia, of late years, has thence received articles for two millions, and returned them for nearly as much. The chief of the matters that come to Ruſſia from China, are tea, ſilk, and kitaika (nankeen,) and of what are carried thither, the valuable ſiberian furs †.

The aggregate total then of the whole commerce of Ruſſia by land, comes to near 9,800,000 rubles, which gives a balance of about 1,600,000 rubles againſt the empire.

* According to the liſt annexed, the trade with the Kirghiſes in 1775, did not amount to near ſo much. Three, however, of the above-mentioned forts are omitted in it, where the trade is at preſent conſiderable. In Semipalatinſk alone the exports were above 100,000 rubles. There are alſo ſeveral other petty forts on the line, where the Kirghiſes traffic, as do the Bukharians and others; ſo that my ſtatement, for the time preſent, is undoubtedly not too high.

† Mr. Coxe reckons the chineſe trade already for the year 1777, at 7,200,000 guldens, (above four millions of rubles.) Travels, vol. i. p. 181. and in his other work, Diſcoveries of the Ruſſians, at four millions of rubles.

SECTION

SECTION IV.

Of the whole Commerce in general.

FOR convincing the reader of the round accuracy of the ſums ſtated in the preceding ſection, the annexed ſtatement may ſuffice, as it repreſents the whole account of the commerce in 1775.

At the Sea-ports.	Imports. Rubles. Kop.	Exports. Rubles. Kop.	Duties. Rubles. Kop.
St. Peterſburg	6,892,833 54¼	8,299,584 95½	1,696,829 96¼
Cronſtadt		37,848 0	1,786 18
Narya	37,211 10½	458,645 3½	94,739 87
Viborg	113,583 69	51,347 2¾	21,487 35¼
Friederickſhamm	28,939 67	17,574 39	6,770 18¼
Archangel	281,747 63	1,367,926 38¼	144,961 84½
Onega		6,289 83½	1,164 16½
Kola			10 23¾
Aſtrakhan	237,224 37¼	561,327 3½	24,308 6
Temernikof	79,708 70¾	77,545 1½	22,979 39¼
Riga	1,950,803 25	4,619,797 85¼	588,496 32
Reval	556,994 50	420,380 47½	42,667 23½
Pernau	88,155 17½	280,674 53¼	29,197 65½
Arenſburg	16,023 51¾	55,528 86¼	4,278 75
Habſal	13,508 50	33,838 50	2,816 77¾
At the cuſtom-houſes on the frontiers			
Pſcove, towards Poland	323 67½		94 51½
Olonetz, towards Sweden	4,587 20	8,821 18	676 30½
Neuſhlot, ditto	93 83	149 95	19 7¾
Kitzliar, towards Perſia	106,888 65	89,666 9	5,374 54
Krementſhuk, towards Poland	24,734 95	13,166 95	6,725 60

Sekerinſk

At the Sea-ports:	Imports. Rubles. Kop.	Exports. Rubles. Kop.	Duties. Rubles. Kop.
Sekerinſk . .	134 0	. . . .	25 25
Tzaritſhenſk . .	8,491 12½	32 40	7,161 95
Perevolotſk . .	18,161 50	777 0	3,285 37½
Elizabetſk		32,209 49	747 52½
Iſiumſk . . .	488 —	. . . .	103 78
Bachtutſk . . .	4,045 50	163 20	857 75
Khoperſk		16,785 85	518 59½
Neſhinſk		4,775 60	1,191 40½
Vaſſilkof . . .	83,169 48	302,395 71	11,708 42½
Perefſlavl . . .	60 0	695 0	59 75
Staikofſk . . .	303 0	241 25	14 39½
Meſtigorſk . .	4,029 45	397 80	1,233 20
Sorokoſhitſk . .	50,903 21½	23,791 50	6,165 52½
Kamenſk . . .	320 —	18,141 5	830 9½
Azof, or Taganrok, towards the Caucaſean nations .	7 20	109 30	9 57½
Rogatſhef, towards Poland . . .	61,029 68	7,172 75½	10,473 62½
Bakumenſk . .	362 55	730 60	151 28
Medvedova . .	3,005 51¼	4,272 20	276 36¾
Tolotſhinſk . .	55,988 74	164,693 78	13,204 10¾
Rubeſk . . .	669 72	2,223 87	67 29¾
Belcunitſheſk . .	1,198 50	951 33	78 78½
Dobranſk . . .	4,664 72	22,392 50	5,940 85½
Viſhnofſk		13 80	3 18¼
Shielegofſk . .	5,300 49	86 20	886 32
Melnitzk . . .	75 45	54 50	20 41
Beſhenkofſk . .	37,830 60¾	16,275 1	7,896 62½
Druitzk . . .	17,624 56½	1,014 15	2,579 20
Schtſchutſcheſſk .	559 53¾	. . . .	125 29¾
Boeſſk	3,241 16¼		
Orenburg, towards the Kirghiſitzi and Bukharians	207,242 52½	1,344 35 206,214 67¾	729 6¼ 48,127 57¼
Troitzk . . .	34,339 40	31,137 23½	7,208 54
Yamuſhef . .	2,828 61	2,464 28½	215 55¾
Peterpavelſk, or Kiachta, towards China . . .	1,427,450 48¼	1,294,581 2½	462,559 35½

Zuruchatai

At the Sea-ports.	Imports. Rubles. Kop.	Exports. Rubles. Kop.	Duties. Rubles. Kop.
Zuruchatai . .	2,486 17½	1,029 12½	8,330 48½
Particular receipts	. . . . .	. . . . .	35,511 50½
Total	18,469,372 87	18,557,279 30½	3,326,182 3½

Of gold and ſilver, in foreign coin, imported by the Baltic	1,805,395 3½
Expended in Payment of the dues in dollars 1304 pood 14 pound 26 ſolotniks	913,049 89
Brought in, therefore, by the duties in ruſſian money .	2,377,620 64

The total income by the duties and cuſtoms of all the ports and frontier-places of the empire, amounted,

	Rubles.	Kop.
From 1758 to 1768, in 11 years, to	30,847,440	15½
1762 — 1772, ditto,	33,236,051	66
1762 — 1775, 4 ditto,	43,791,183	30½

There comes in annually a conſiderable ſum in foreign gold and ſilver: for inſtance, from 1758 to 1768, in 11 years, were imported to the amount of 19,219,566 rubles 85¾ kopeeks.

From 1758 to 1768, in 11 years, in dues of all kinds at the ſeveral cuſtom-houſes of the empire, 10,310,353 rubles 43¾ kopeeks in ſilver. From 1762 to 1772, alſo in 11 years, 8,836,326 rubles 98¼ kopeeks; and from 1762 to 1775, in 14 years, 11,584,924 rubles 90 kopeeks.

How much the commerce of the ruſſian empire has increaſed ſince the commencement of the late reign may be ſeen by the following table, after caſting an eye on this ſhort ſtatement of it a little before that æra; viz. In the year 1758, the exports amounted to 8,150,683 rubles, and the imports

imports to 5,826,126 rubles: total 13,976,809 rubles. In 1760, the whole trade was 18,650,000 rubles, and the profit 3,413,000 rubles. — From 1758 to 1768, therefore in 11 years, the imports amounted to 114,364,661 rubles, 37¾ kopeeks, and the exports to 123,658,217 rubles 91¼ kopeeks. — From 1762 to 1772, likewise in 11 years, the imports were entered at 115,478,313 rubles 71¾ kopeeks, and the exports at 148,065,786 rubles 87½ kopeeks; and from 1762 to 1774, in 14 years, the imports rose to 155,115,064 rubles 57½ kopeeks, and the exports to 202,368,705 rubles, 97½ kopeeks *.

In the year	Imports.		Exports.	
	Rubles.	Kop.	Rubles.	Kop.
1762	8,725,065	65½	13,290,030	69¾
1763	9,603,984	35¾	11,536,931	22¼
1764	9,670,618	54	11,493,802	51½
1765	9,226,347	17¾	13,161,983	4½
1766	9,175,175	12	11,608,181	—
1767	9,018,129	23	11,810,478	58
1768	10,856,161	75½	12,971,542	37
1769	11,539,022	14½	14,397,041	23
1770	11,374,259	30½	14,989,134	75½
1771	10,726,897	11¾	17,136,353	44¼
1772	15,562,653	32	15,670,308	2¼
1773	13,571,433	10½	18,141,675	81¼
1774	13,595,944	88½	17,603,963	91
1775	12,469,378	87	18,557,279	30½

In 1790 the trade of Peterſburg and Riga alone amounted to as much as the trade of the

* Tſchulkof, opiſſanie roſſiſkii kommertzii.

whole

whole empire had done in the year 1762, which was then more than twice as much; thus,

The trade of	Importation.	Exportation.
St. Peterſburg	11,000,000 r.	13,000,000 r.
Riga, Arenſburg, Pernau *	2,000,000	5,000,000
Reval, Habſal	800,000	600,000
Narva	50,000	500,000
Vyborg, Friederichſhamm	200,000	100,000
Archangel, &c.	500,000	2,000,000
Aſtrakhan	1,000,000	1,200,000
Taurida	1,250,000	1,000,000
The land-trade with		
Poland, Sileſia, &c.	2,000,000	500,000
Perſia, Georgia, &c.	200,000	100,000
The Kirghiſes and Bukharians	1,500,000	1,500,000
China	2,000,000	2,000,000
Total	22,500,000	27,500,000

According to Herrmann, the aggregate of the commerce of the empire, therefore, amounted then to about fifty millions of rubles, whereby Ruſſia gained near five millions annually †. The returns thus

* The commerce of the ports of Livonia and Eſthonia, both active and paſſive, amounted to a ſum of nearly ten millions of rubles: therefore, as Mr. Buſching obſerves, if the commerce of thoſe provinces do not proſper, it muſt be owing to the tyranny of the lords.

† This ſurplus comes here partly indeed in foreign coin, with which the duties are paid in ſilver, and which is occaſionally applied to other uſes; but a good part of this ſurplus

thus made by the ruſſian ſubjects, exports and imports reckoned together, amounted to fifteen millions, among which thoſe commodities are to be underſtood which are imported and exported in ſhips either built or bought in Ruſſia. The ſubjects, accordingly, have a ſhare of nearly one third, and not, as Marſhall ſays, of nine tenths.

Mr. Chalmers has ſtill more ſtrikingly repreſented the increaſe of the trade of the Engliſh with Ruſſia ſince the beginning of the preſent century, in the following manner:

		Imp. from Ruſſia.	Exp. to Ruſſia.
From 1700 to 1702 yearly		124,220	76,784
1720	1722	146,219	80,713
1740	1742	305,034	77,553
1750	1752	459,410	116,315
1760	1762	622,520	49,233
1770	1772	1,110,093	145,125 *

In the year 1784, the ratio of commodities exported and imported at St. Peterſburg by the undermentioned nations, was as follow:

	Imports.		Exports.	
	Rubles.	Kop.	Rubles.	Kop.
Ruſſian ſubjects	6,958,428	22½	2,841,996	91½ †

remains ſafely lodged in foreign banks, and another conſiderable portion is ſpent in defraying the expences of the crown in foreign parts, particularly in times of war. — M. von Bolin eſtimates this ſurplus even at five millions. Tom. ii. ſp. 457.

* In the year 1780 was imported in England from Ruſſia to the value of 1,350,429l. and only of 16,103l. exported.

† In the year 1785, the ruſſian ſubjects exported for 2,556,307 r. 59½ k. and imported for 6,027,938 r. 97½ k.

Engliſh

	Imports. Rubles.	Kop.	Exports. Rubles	Kop.
Engliſh	3,000,935	15½	8,390,755	0½ *
Danes	371,235	59	340,730	48
Dutch	363,657	28¼	182,059	42¾
Portugueze	239,357	—	156,453	24¼
Hamburgers	238,208	35	89,752	39
Spaniards	158,399	10	135,476	4½
Lubeckers	126,159	29½	42,740	3½
French	90,865	82	181,464	49¼
Auſtrians	89,604	85	5,427	20
Swedes	52,711	14¾	157,513	33½
Swiſs	42,949	35	4,545	49½
Italians	85,671	40	330,554	61
Pruſſians	16,354	20	6,389	90¾
Roſtockers	13,753	95	9,688	—
Saxons	12,350	50	—	—
Dantzickers	2,700	20	—	—
Americans	9,287	—	—	—
Merchants and paſſengers of various nations	114,970	60	16,676	59½
Ship-maſters	168,544	44½	49,387	95½
Commodities not yet made free	15,684	50	—	—
Total	12,172,345	98½	12,941,513	12¾

The cuſtom-houſe receipts from Kiachta in 1784, amounted to 700,000 rubles. The duties

* In the aforeſaid year 1785, the exports of the Engliſh amounted to 9,035,846 r. 39 k. but their imports only to 2,365,909 r. 14½ k.

In the year 1794, a few engliſh houſes in St. Peterſburg made contracts for 700,000 poods, or 28 millions of pounds of hemp, to be delivered at the ports of Great Britain alone. Of ſo much conſequence is the hemp-trade to Ruſſia.

on the chineſe commodities were at 25, on the ruſſian 23½ per cent. Compare this with the value of the exports and imports, and it will make about three millions of rubles. But the major part of the ruſſian articles are in common ſold at a price conſiderably higher than they are rated at in the books: whereas the chineſe goods have generally a fixt taxation, and are entered at the ſame value as they are diſpoſed of at to the traders. Now add to this the ſmuggled commodities, which are to a conſiderable amount, and the total of the imports and exports of Kiachta may be fairly ſtated at four millions of rubles. — Some ruſſian merchants, particularly M. Shigarof of Moſco, carry on a remarkably great commerce in Kiachta. That perſon alone in ſome years deals for at leaſt half a million.

SECTION V.

Of the Internal Commerce.

FROM what has been ſaid it plainly appears how conſiderable and extenſive the EXTERNAL commerce of Ruſſia is at preſent. But in an empire that has thirty millions of inhabitants, and ſuch a prodigious quantity of commodities brought in and carried

carried out, the INTERNAL trade muſt be ſtill more important and valuable. This, for the greater convenience of the reader, may be divided into the SIBERIAN, and the DOMESTIC trade of Ruſſia proper and the newly conquered provinces. — The ſiberian commerce is of great conſequence; but muſt be underſtood peculiarly of the governments of Irkutſk, Kolhyvan, Tobolſk, Perme, and Ufa. All the products of theſe parts, not conſumed in the country itſelf, or not (as at preſent, when the commerce is interrupted) diſpoſed of to China or to the Kirghiſes, go by the interior diſtricts and ports of Ruſſia. The major part, at leaſt of the heavieſt commodities, are brought almoſt entirely from the eaſtern regions of Siberia, to St. Peterſburg. This navigation proceeds from the Selenga to the Baikal, and from the Angara into the Yeniſſey, from that into the Oby, from the Oby into the Tobol; from here over a tract of land of about 400 verſts, as far as the Tſhuſſovaia, from this into the Kamma, from the Kamma into the Volga; from this, by the ſluices at Viſhney-Volotſhok, into the Volkhof, from the Volkhof into the Ladoga-canal, and from this canal into the Neva. The moſt of the return or barter of european commodities againſt ſiberian furs, and againſt chineſe commodities, is carried on in the town of Irbit, in the government of Perme, where a famous fair is held annually in the months

of January and February*. The products carried every year from Siberia to Ruſſia, may be nearly eſtimated as follow:

	Rubles.
Iron, for the amount of - -	3,000,000
Salt - - - - - - - - -	2,000,000
Gold and ſilver - - - - -	1,700,000
Furs and ſkins - - - - -	1,000,000
Copper money - - - - -	1,500,000
Copper in pieces - - - - -	500,000
Tallow and leather - - - -	500,000
Marble, precious ſtones, &c.	300,000
Chineſe tea, &c. (or if the commerce be interrupted, ſo much the more furs inſtead) -	1,500,000

All together therefore 12 millions of rubles drawn

* The chineſe and ſiberian commodities come to this fair as well by land as by water. By land they go from the borders and the remoter diſtricts, by Irkutſk, from thence by Tomſk, thence proceed by Tara, and from Tara by Poboſk, and from thence over Tiumen to Irbit. They reckon from Kiachta to Irbit, by this road, to be 3914 verſts. The way by water is that ſhewn above: namely, at Kiachta the goods are ſhipped on the Selenga, and by that brought into the Mare Baikal. Out of this ſea they go upon the Angara into the Yeniſſey as far down as Yeniſſeiſk, where they are unloaded and carried over a ſhort track of land, into the Kas, and on this river into the Oby. From the Oby they then proceed up the Irtyſh and the Tobol to Tiumen, where they lie till the ſeaſon of ſledge-ways; or, if they are deſigned for Ruſſia, are carried by land to the Tſhuſſovaia.

annually

annually by Ruſſia from Siberia; and therefore it has, not unjuſtly, been called the ruſſian Peru.

But of yet greater importance is the interior commerce of the ruſſian provinces interchangeably with each other, and their traffic in the ports and frontier places of the empire, either for bringing thither the commodities deſigned for exportation, and for fetching thence the goods imported; or for conveying to each other their reciprocal neceſſaries. The greater part, eſpecially to the ſea-ports, are likewiſe here tranſported by water. The Volga, the king of the rivers of Ruſſia, which connects the Baltic with the Caſpian, acts a principal part in this buſineſs; and the liſts of ſuch commodities as for the laſt thirty years have annually paſſed the Ladoga-canal, afford a competent view of the quantity and kinds of thoſe which come to Peterſburg alone. The many large and conſiderable rivers with which the whole empire abounds, are in the higheſt degree favourable to a very briſk internal as well as to a foreign commerce. Beſides the Volga and the ſiberian rivers, the principal are the Dvina, on which the navigation is carried on to Archangel; the Duna, which carries veſſels to Riga; and the Bogue, Dniepr, and Don, on which articles of commerce are tranſported to the Euxine.

Several very conſiderable fairs that are held in various towns and cities of the empire, contribute greatly to facilitate the proſecution of traffic. The moſt celebrated of theſe fairs is that at Makarief,

a monaſtery and city in the government of Niſhney-Novgorod, at which the ſiberian and ruſſian merchants aſſemble from all parts of the country.

Among the trading cities of greateſt note, the principal are St. Peterſburg, Riga, and Moſco. The latter is the central point at which all the affairs of the interior commerce of the empire flow together and unite. Here likewiſe is a numerous and opulent body of mercantile men. In the year 1764 it conſiſted of 9582 heads; paying a capitation-tax at 120 kopeeks per head, of 11,498 rubles, 40 kopeeks. But, as according to the late regulations, thoſe only can be reckoned to belong to the body of merchants, who can make it appear that they poſſeſs a capital preſcribed by law, numbers of them entered into the claſs of burghers. Of theſe there were in 1775 at Moſco 6079 perſons; of whom were in the firſt guild 112 families with 272; in the ſecond guild 496 families with 1041; and in the third guild 824 families with 1424 perſons. All together have regiſtered their capitals at 2,530,695½ rubles, and pay, in lieu of the head-money, at the rate of one per cent. 25,396 rubles 95 kopeeks.

The aggregate national wealth of Ruſſia, in its annually ariſing products, may be reckoned with tolerable accuracy in the following manner:

Thirty millions of inhabitants of both ſexes, making about 6 millions of families (each at five perſons) conſume monthly at leaſt 48 millions, in the

the whole therefore 576 millions of poods of all kinds of meal, grits, &c. each pood, on an average, at 25 kopeeks, makes a ſum of

rubles 144,000,000*

Brandy is made yearly, and its conſumption is about five millions of eymers, each at three rubles -	15,000,000†
Salt, 12 millions of poods, at 35 kopeeks - - - - - - - -	4,200,000
Gold, ſilver, lead, copper, iron, &c.	8,750,000
Fine and coarſe furs, at leaſt amounting to - - - - - - -	5,000,000
Hemp, flax, tobacco, linens, hemp-oil, linſeed-oil, &c. - - - -	30,000,000
Fire-wood, timber, charcoal, ſhip-timber, tar, pitch, &c. - - -	20,000,000

* Rye-meal, the ſtandard by which the value of all things is regulated in Ruſſia, was worth formerly in ſeveral provinces, particularly in the Ukraine and in Siberia, leſs than 25 kopeeks the pood; but at preſent there are very few places where it can be had at that price. In moſt places it is much dearer, and in many double that price, and even more than double; accordingly the countryman has greater encouragement to cultivation. The above-ſtated price of 25 kopeeks is then the loweſt at which it could be fixed, and, beſides, the corn exported is not compriſed. Add this to the account, and alſo what is conſumed in the diſtilleries, and the quantity of meal produced in Ruſſia will be ſurely every year 600 millions of poods.

† Brandy and ſalt I have reckoned at the lawful prices; and all the reſt at ſuch ſums as come neareſt the truth.

Cattle,

	Rubles.
Cattle, leather, wool, milk, pulſe, garden-vegetables, &c. - - -	58,050,000
Product of the fiſheries - - -	15,000,000
Total	300,000,000*

Conſequently of this capital comes to each inhabitant an annual ſhare of ten rubles.

By commerce, every year is exported of theſe products, namely,

In metal-wares to about - - - 3,000,000†

* Marſhall, in his travels, eſtimates the annual produce of Livonia alone at 13 millions of pounds ſterling; but that is certainly more than about four fifths too much.

† This ſum makes almoſt the whole of the bar and caſt iron, which latter is chiefly diſpoſed of to the aſiatic nations. — Sweden exported in twenty years, to the amount of 46,152,962 ſwediſh rix-dollars, in metal-goods; conſequently in one year amounting to 2¼ millions of dollars. Ruſſia has therefore got precedence of them already in that artiele; which is the more remarkable, as Ruſſia uſed formerly to draw the iron ſhe wanted from Sweden. But it is a well-known fact that Sweden has been the means of greatly promoting the demand for ruſſian iron. For, by the iron-comptoir eſtabliſhed at Stockholm in the year 1748, the price of this metal was ſo much raiſed, that the Ruſſians could ſell their iron with 20 per cent. profit at Marſeilles, for the price at which ſwediſh iron could not be bought in Stockholm. — It is much to be wiſhed, for the benefit of the country and of ſuch numbers of people who get their bread by the mines, that the Ruſſians do not, as may eaſily happen, fall into the ſame error.

In

	Rubles.
In hemp, flax, and all articles prepared from them - - - - -	10,000,000
In leather, tallow, furs, and all other products from the animal kingdom - - - - - - - - -	8,000,000
In corn, wood, and other petty articles - - - - - - - - - -	4,500,000
Total	25,500,000
To this the tranſport-article, at -	2,000,000

Which together make out the above-mentioned ſum of 27½ millions of rubles.

The quantity of money now †, circulating in the empire, may be admitted, as in the following ſtatement:

* From 1771 to 1773, in three years, from all the ports of the Baltic were exported: 2,089,828$\frac{5}{6}\frac{8}{8}$ chetverts of rye, at 5,914,561 r. 48½ k. — 271,631$\frac{1}{1}\frac{4}{8}\frac{2}{8}$ chetverts of wheat, at 1,120,041 r. 14¾ k. — 146,572$\frac{1}{8}$ chetverts of barley, at 375,990 r. 83½ k. — 102,712 chetverts of oats at 138,272 r. 7½ k. and 1016⅓ chetverts of malt at 1866 r. 22¾ k. In the three years from 1778 to 1780, only for 4,598,815 r. but afterwards again more corn was exported.

From all the foregoing it is apparent how much the abbé Raynal is miſtaken, when he ſays: "Toutes les provinces "interieures de la Ruſſie ſont dans un tel état de pauvreté, "qu'on y connoit à peine ces ſignes de convention (1) qui "repreſentent toutes choſes dans le commerce." Hiſt. philoſoph. tom. iii. p. 128.

† 1788.

(1) L'argent.

In

	Rubles.
In gold and ſilver coin, at - - -	76,000,000
Copper coin, at - - - - - -	54,000,000
Paper money, at - - - - - -	100,000,000
Total	230,000,000

Add together this ſum, and the progreſſive value of the product, and there appears an annual political revenue of 530, or to confine ourſelves to the loweſt, of at leaſt 500 millions of rubles.

The quantity of ſpecie is now every year increaſed:

	Rubles.
By money ſtruck of ſiberian gold and ſilver, about - - - - - -	1,700,000
By foreign coinage of various ſorts	1,300,000
By copper money - - - - - -	2,000,000
Total	5,000,000

From

From the New Tarif, publiſhed at St. Peterſburg in 1797, *by which the Duties on the* IMPORTATION *of the principal Foreign Merchandizes here following are received.*

	DUTY. R.	K.
ALMONDS, with or without ſhells, per pood	0	80
Alum, all ſorts, per bercovetch	1	0
Antimony	0	20
Apples and pears, freſh, per caſk of two ankers	0	50
——— ſalted	1	0
——— dried, per pood	0	60
Arack, ſhrub and rum, per dozen bottles	7	20
Beads of cryſtal, per thouſand	0	20
——— glaſs, per pood	1	85
Benzoin, or olibanum, per pood	5	40
Borax, per pood	1	80
Brandy, common ſpaniſh, portugueſe, and others, except ſweetened, per anker	20	0
Butter, per pood	1	20
Cacao, per pood	2	0
——— untwiſted and dyed	10	0
Cambric and gauze, plain, ad valorem, per cent.	0	30
Camels yarn, twiſted and dyed, per pood	12	0
Capers, per pood	1	0
Caps, night, of beaver, woye and fulled, per doz.	4	80
—— of ordinary worſted, cotton, and thread	1	0
Cardamums, per pood	12	0
Cheeſe, parmeſan, per pood	3	0
——— engliſh, dutch, &c.	0	60
Cherries, dried, per pood	0	30
Cinnamon, per pood	12	0

Cloth,

	DUTY. R.	K.
Cloth, fine broad, per arſhine - -	0	40
——— broad - - -	0	30
——— narrow - - -	0	20
Cloves, per pood - - -	12	0
Coral, beads of, picked or common, per pound	3	0
Cochineal, per pood - - -	10	0
Coffee, per pood - - -	3	20
Cork in pieces, per pood - -	0	3
——— for bottles - - -	2	0
Cotton, white ſpun, and candlewicks -	0	80
Cotton goods, velverets, pluſh, thickſets, fuſtians, baize, and other cotton ſtuffs, white, coloured, printed, and mixed with thread, per ruble -	0	40
Cotton linens, white for printing, not exceeding 30 kopeeks the arſhine, per 100 arſhines	5	0
——— others, white, fit for the ſame uſe, not exceeding 30 kopeeks the arſhine, and mitcal, per ruble - - -	0	20
Curcuma, or turmaric, per pood -	0	30
Currants, per pood - - -	0	40
Dimity of all ſorts, per cent. - -	0	30
Emery, per pood - - -	0	9
Figs, per pood - - -	0	40
Frankincenſe, common, per pood -	1	0
Galingal, per pood - - -	0	8
Ginger, white, clean, and dried, per pood -	0	12
——— grey and black - -	0	16
Glaſs, window of all ſorts, ad val. per ruble -	0	30
Gum, arabic, per pood - -	0	30
——— guiacum - - -	1	80
Gum lack, or ſchellak - - -	1	0
——— ſenegal - - -	0	30
Gun-flints, per pood - - -	0	28
Herrings, engliſh and dutch, per barrel -	1	80
——— ſwediſh, northern, and others -	0	45

Indigo,

	DUTY. R.	K.
Indigo, of all ſorts (excepting that of Jamaica) per pood	5	8
Lace, thread, ad valorem, per cent.	0	10
Lead, per bercovetch	0	80
Lemons and oranges, per cheſt of 300 each	0	60
——— ſalted, per caſk	3	0
——— juice, per anker	0	60
——— peel, dried, per pood	0	12
Mace, per pood	20	0
Madder, per pood	0	60
Marcaſite, per pood	0	80
Maſtick, per pood	1	20
Minium, per pood	1	0
Mount-blue	1	80
Muſtard, per pood	1	50
Mummie, per pood	0	90
Muſlin, ad valorem, per ruble	0	30
Needles, per thouſand	0	30
Nutmegs, per pood	12	0
——— flower of	20	0
Nutgalls	0	40
Ochre	0	30
Oil of olives	0	60
Olives	1	0
Orlean	0	60
Orpiment	1	20
Orſeille	0	30
Oyſters, freſh, per barrel of 2 ankers	5	0
Paper, royal, per ream	3	0
——— medium	2	50
——— ſmall	2	0
——— poſt	2	0
——— pro patria	1	60
——— for cards	1	0
Paſtel, per pood	0	12

Pearl

	DUTY. R.	K
Pearl barley	0	20
Pencils, lead, common, per doz.	0	6
——— in cedar wood	0	24
Pens, for writing, by the hundred	2	0
Pepper, per pood	2	0
Pottery, as well porcelaine as earthen ware, ſtone, and clay, plain and varniſhed, to ſerve as utenſils, ad valorem, per ruble	0	4
Prunes, per pood	6	0
Raiſins, per pood	0	40
Red lead	0	30
Ribbons, ſilk, of all ſorts, plain, ad valorem, per cent.	0	40
Rice, per pood	0	20
Roots of violets	0	16
Saffron, per pound	0	60
Sal ammoniac	0	60
Sanguine, or bloodſtone, per pood	0	30
Savonets	1	0
Scythes, per hundred	3	0
Sea-green, per pood	0	30
Sealing-wax, per pound	1	0
Silk, gold and ſilver glazets and zirzak, plain, ad valorem, per cent.	0	40
Silk, velvets plain and of one colour, per pound	5	0
——— ſtuff, plain and ſingle colour, per pound	4	0
——— gros-de-tours and gros-de-Naples ſerge and ſattins, plain and ſingle coloured, per pound	3	0
——— taffetas and perſians, plain and of one colour, per pound	3	0
——— ſtuffs of coarſe ſilk and ſilk baize, per arſhine	0	40

Silk,

	DUTY. R.	K.
Silk, chenille, per pound	5	0
—— pluſh, per arſhine	0	50
—— griſette, mohair, and all ſtuffs mixed with ſilk, camel's hair, cotton, and thread; but plain and of one colour, per cent.	0	30
Skins, otters and beavers, per piece	1	0
——— late, white, per pood	0	24
Spirit of wine, per anker	40	0
Spirits, diſtilled by ſugar and ſpices, per anker	24	0
Steel, per caſk of three poods	1	30
Stockings for men, women, and children, made of flock ſilk mixed with cotton, of only one colour, per doz. pair	3	0
——— ſilk, white and variegated, of the largeſt ſize, per doz. pair	12	0
——— ditto, of middling length	9	60
——— ditto, for children	4	80
——— run with beaver, for men and women, per doz. pair	6	0
——— ditto, for children	3	0
——— camel's hair, and run with worſted, large ſorts, per doz.	1	20
——— ditto, ditto, large ſorts, per doz. for children	0	60
——— ditto, mixed with thread and cotton, of all colours, the largeſt ſort, per doz.	1	0
——— ditto, ſmaller	0	84
——— thread and cotton, of all ſorts, large, per doz.	2	40
——— ditto, ſmaller	1	20
Storax, per pood	2	0
Succory, ground	4	0
Sugar, raffinade, per pood	2	40
——— melis	2	0
——— lump	1	60

	DUTY. R.	K.
Sugar, candy	2	40
——— raw	0	30
——— raw, refined in Europe	1	0
Sulphur, per bercovetch	2	40
Sword-blades, per doz.	3	60
Syrop, white, per pood	2	40
——— brown	1	
Tartar	0	18
Thread, fine, of all ſorts, per pound	1	20
Tiles, per thouſand	4	0
Tobacco, ſpaniſh, portugueſe, and italian, per pound	1	50
——— of Brazil and knaſter	0	60
——— in rolls and leaves, per pood	2	40
——— cut for ſmoking	4	0
——— rappee and in carottes	8	0
Tea, per pound	1	50
Tools, and inſtruments for mechanics, per pood	0	80
Tutenague, per pood	0	24
Vanilla, per pood	10	0
Veſſels of all ſorts, of freeſtone, glaſs, wood, and iron, ad valorem, per ruble	0	40
Verdegris, common, per pood	5	40
Vinegar of wine and cyder, per hogſhead	1	50
Vitriol of Cyprus, per pood	1	50
——— black	1	0
——— oil and ſpirit of,	3	0
Ultramarine, per pound	3	0
Umber, per pood	0	10
Wafers, per pound	2	0
Wine, champaigne, per bottle	0	70
——— burgundy	0	60
——— french wines (indirect), per hogſhead	18	0
——— port wine (direct)	4	50
——— ſpaniſh	6	50

Wine,

	DUTY. R.	K.
Wine, rhenish, moselle, and other german wines, per hogshead - - -	18	0
Wire, for needles, per pood - - - -	0	12

Merchandises, the Importation whereof is prohibited.

Ribbons of all sorts, spotted and striped, except plain and single-coloured. Foreign beers of all sorts, porter and mum. Fans. Indigo, common, in balls. All articles of jewellery. Gloves of all sorts. Hats. Coffee-mills. Combs. Buttons. Comfits. Knives and forks. Pins. Paper stained and painted. Parchment. Powder and pomatum. Toys. Ruffles. Furs. Locks. Shoe-blacking. Anise. Indian anise. Looking-glasses. Carpets. Hangings. Snuff-boxes of all sorts.

The following Goods are free of Duty.

Drugs for apothecaries. Raw cotton. Teazels. Earths and clay. Gold and silver. Wood for furniture and carriages, unwrought. Mathematical, surgical, and musical instruments, but not harpsichords. Mineral and other specimens of natural history. Raw silk. Coals. Mineral waters. Raw wool.

The duties are paid in dollars of weight, 14 to the pound at the rate of 140 kopeeks to the dollar, and besides that 2 per cent. on the amount of the customs.

From the new Tarif published at St. Petersburg in 1797, by which the principal russian products pay the duties on their EXPORTATION.

	DUTY. R.	K.
ANISE-SEED, per pood	0	2
Barley, per chetvert	0	12
Briſtles, per pood	0	48
Buck wheat, per chetvert	0	14
Caſtorcum, per pound	0	30
Caviar, per pood	0	8
Cordage, of hemp, per berkovetch	0	45
——— codilla	0	12
Cow-hair, raw, per berkovetch	0	3
Crab's eyes, per pood	1	0
Drillings, per piece of 60 arſhines	0	60
Fiſh-oil, of all ſorts, per caſk of 7 poods	0	39
Flax, 12-headed, per berkovetch	3	0
——— 9-headed	2	80
——— 6-headed	2	0
——— codilla	0	50
Furs, ſables, beavers, foxes of all ſorts, ad valorem, per cent.	0	6
——— mountain-fox, pole-cats, ermines, martens, and other particular kinds, ad valorem, per cent.	0	10
Hare hair, per pood	3	0
Hemp, clean, per berkovetch	1	80
——— outſhot	1	40
——— half clean	1	0
——— codilla	0	30
Hempſeed, ordinary, per chetvert	0	24
——— oil and linſeed oil, per pood	0	20
Hops, per pood	0	20

Horſetails,

	DUTY. R.	K.
Horſetails, per hundred	0	10
——— hair, raw or boiled, per berkovetch	0	50
Iron, old and broken, per berkovetch	1	0
——— in bars of all ſorts	0	40
——— in lumps not wrought	0	80
Iſinglaſs, book and ſtaple, per pood	1	50
Leather, neat's, prepared, by tens	0	60
——— horſe, tanned	0	25
——— ſheep, tanned on both ſides	0	8
——— ſheep-ſkins prepared	0	10
——— red or yufts, per pood	0	90
——— for ſoles	0	20
——— calf, tanned, by tens	0	10
Linen, white, per 1000 arſhines	5	0
——— unbleached	4	0
——— bale	1	0
——— ſlems, per pieces of 50 arſhines	0	50
Linſeed, ordinary, per chetvert	0	30
Malt, per berkovetch	0	12
Mats, double or ſingle, old or new, per piece	0	12
Oats, per chetvert	0	8
Pearlaſh, per caſk	0	50
Pitch, per pood	0	1
Potaſh, per berkovetch	1	50
Raventuchs, per piece of 50 arſhines	0	40
Rhubarb, per pood	6	0
Roſin, per berkovetch	0	30
Rye and flour, per chetvert	0	8
Sailcloth, per 50 arſhines	0	40
Saltpetre, per pood	9	60
Skins, lamb, white and motly, per 100	1	0
——— ditto black	2	50
——— hare, white, per 1000	6	0
——— grey	17	50
Soap of all ſorts	0	10

	DUTY. R.	K.
Soda	0	3
Tallow of all ſorts, per berkovetch	4	0
——— candles, per pood	0	20
Tobacco, leaf, per pood	0	3
Wax, white and coloured, per pood	1	0
——— yellow	1	20
——— candles	0	40
Wheat, per chetvert	0	10

Goods that pay no Duties on Exportation.

STEEL. Indian aniſe. Down. Pine-apples. Fiſh. Honey. Cummin. Printed linen and buckram. Glue. Gunpowder. Sulphur. Tea. Indian ink. Napkins and table-cloths bleached and made up. Chintzes and cottons. Thread.

Goods, the Exportation whereof is prohibited.

UNDRESSED ſheep-ſkins, ſeal-ſkins, and otter-ſkins. Buck-ſkins, deer-ſkins, and calf-ſkins dried. Goat-ſkins, ox-hides, and horſe-hides, raw, dried, and ſalted. Gold and ſilver. Gold, ſilver, and copper coin, and bank notes of Ruſſia.

THESE duties are paid in the currency of the country; and beſides one per cent. on the amount of the duties received.

Value

Value of the Ruble by the Courſe of Exchange at St. Peterſburg, 1797.

	DUTCH STUYVERS.			PENCE STERLING.			HAMBURGH SCHILLINGS.		
	Higheſt	Mean	Loweſt	Higheſt	Mean	Loweſt	Higheſt	Mean	Loweſt
January	32 1/4	31 5/8	31 1/2	32	31 1/3	31 1/4	27	26 7/8	26 1/2
February	32 1/4	32	31 1/2	32 1/2	32 1/4	31 3/4	28	27 3/4	26 3/4
March	32 1/4	30 3/4	—	32 1/4	31	30 1/2	28	27 1/4	26 1/2
Aprtil	31	30 1/4	—	31 5/8	30 1/2	—	27	26 3/4	26 1/4
May	30 3/4	30 1/2	30 1/4	31	30 3/4	29 3/4	27	26 3/4	26 1/4
June	29 3/4	28 3/4	—	29 1/1	28 3/4	—	26	25 3/4	25 1/4
July	29	28 3/4	28 1/4	29	28 3/4	28	28 1/8	25 1/2	25 1/4
Auguſt	29 3/4	29 1/2	28 1/4	29 1/2	29	28 1/4	26 1/4	25 3/4	25 1/4
September	29 1/4	28 1/2	28 3/8	28 3/4	28 1/4	27 3/4	25 7/8	25 3/4	25 5/8
October	29 1/4	28 7/8	28 3/4	28 5/8	28 1/2	28 1/4	26 1/4	25 5/8	25 1/2
Novemoer	30	29 3/4	29 5/8	28 1/2	28 1/4	28 1/2	26 1/2	26 3/4	26 1/2
December	29 3/4	29 1/2	29 1/4	28 1/2	27 1/4	27 1/4	26 1/2	26	25 3/4

Value in rubles of the Merchandiſes imported and exported by merchants and other perſons of different nations at St. Peterſburg and Cronſtadt in 1797.

	Imported	Exported
Ruſſians - - -	12,359,005	11,827,205
Engliſh - -	4,936,851	19,749,180
Auſtrians - - -	580,530	370,131
Swedes - - -	9,314	1,870
Danes - - -	148,288	13,125
Hollanders - - -	1,300	
Spaniards - - -	41,451	66,327
Portugueſe - -	260,769	205,460
Pruſſians - - -	14,709	290
Lubeckers - -	32,943	19,623
Hamburgers - -	203,416	12,603
Italians - - -	14,099	
Swiſs - - - -	40,364	
French - - -	306,602	10,831
Merchants of other nations and paſſengers -	284,563	19,893
Captains or maſters of ſhips	131,855	154,369
Total	19,366,059	32,450,911
Thus the exportation exceeds the importation by	13,084,852	
In 1796 the value was -	26,355,890	37,110,333
Therefore this year 1797 is a decreaſe of -	6,989,831	4,659,422

Amount

Amount of all the Duties and Impoſts received at the Cuſtom-houſe in 1797.

Duties in dollars 1913 poods } which make in } in ducats 13 poods } rubles - }		1,662,573
in money of the country - -		1,359,868

Other Duties, viz.

from the towns - -		47,591
of different denomination - -		79,045
	Total	3,149,077
In 1796 the amount was - -		3,504,643
Therefore, this year, 1797, there is a decreaſe		355,566

Gold and Silver imported.

	pood	lb.	ſolotn.	rubles
Gold in ducats 7620 - -	1	25	30½	29,500
in different ſpecies -	—	30	67	11,203
Silver in bars 31 - -	51	18	—	63,314
in 398,147 Albert dollars	678	26	24½	770,361
in different ſpecies -	—	—	42	114
			Total	874,492
In 1796 the amount was - -				290,796
Therefore, in 1797 there was an increaſe of -				583,696

Goods imported at St. Peterſburg, 1797, with their amount in rubles.

	Rubles.
Apples and pears, freſh	92,685
——— dried, 513 pood	2,682
Alabaſter, marble and gypſum, wrought and unwrought	248,864
Alum, 30,012 pood	116,822
Aloes, 335 pood	4,912
Anchovies and ſardells, 230 pood	2,431
Animals, horſes	140,075
——— oxen, cows, &c.	3,825
——— fowls and birds	12,330
Antimony, 383 pood	2,669
Apothecary-drugs	215,513
——— medicines	5,701
Beaver-ſkins, 24,307 ſkins	191,781
Beer and porter, 4500 caſks	327,350
Books, printed	95,696
Borax, 378 pood	14,742
Butter, 707 pood	6,175
Cacao, 327 pood	5,927
Camphire, 150 pood	10,079
Capers, 169 pood	3,747
Cardamums, 340 pounds	838
Cards, for play, 2346 dozen	4,823
Cheeſe, parmeſan, 584 pood	10,641
——— of ſeveral ſorts, 7935 poods	57,066
Cherries, dried, 771 pood	4,647
Chocolate, 43 pood	2,694
Cinnaber, 530 pood	33,088
Cinnamon, 390 pood	23,125
Clocks	10,341
Cloaths, old and new	10,919

Cloths,

	Rubles.
Cloths, fine broad, 522,694 arſhines	2,456,846
—— ſmall ordinary, 1,315,670 arſhines	2,284,240
—— edges, 478,984 arſhines	9,544
—— half or ſpagnolets, 35,618 arſhines	61,309
Cloves, 1147 poods	128,431
Cochenille, 1000 poods	287,666
Coffee, 22,686 poods	516,764
Colours, of various ſorts, 5337 poods	28,163
—— fine ſorts	5,847
—— miniature colours	8,705
Copper and braſs, wrought and unwrought, 364 poods	8,137
Cork-wood, 9713 poods	46,867
—— cut for bottles, 1468 poods	42,011
Cotton-goods, raw, white, and dyed, 174 poods	13,522
—— calicoes and mitkal, 2,079,480 arſhines	738,515
—— muſlin, 64,986 arſhines	51,723
—— cambrick and batiſte, 3476 arſhines	7,125
—— velverets, ſtuffs ſtitched, &c. 313,328	170,795
—— chintz, 110,009 arſhines	43,610
—— cannefas, 29,469 arſhines	16,692
—— ſundry cotton ſtuffs, 36,066 arſhines	17,852
Coverlets of various ſorts	17,175
Cryſtal tartari, 497 pood	9,271
Crucibles and matrices	6,354
Curcuma, 2201 poods	42,598
Curioſities, natural and mineral	38,203
Currants, 4207 poods	19,383
Cummin or caraways, 89 poods	501
Crayons	3,633
Diamonds and precious ſtones	47,250
Fiſh, herrings, ſwediſh and northern, 23,800 barrels	165,833
—— engliſh and dutch, 475 barrels	24,926
—— ſundry other kinds ſmoked, &c.	2,370
Fleſh, ſmoked, dried, ſalted; tongues and ſauſages, 947 poods	11,355

Furs,

	Rubles.
Furs of various kinds	147,606
Gall-nuts, 2314 poods	52,087
Garden-ſeeds and plants	13,617
Ginger, 3233 poods	48,371
Glaſs-ware	10,162
—— window	8,946
—— enamel, 157 poods	2,718
Gold and ſilver plate and wire	3,340
Gum, ſenegal and arabic, 187 poods	3,718
—— ſundry other ſorts, 229 poods	8,772
—— frankincenſe, common, 1182	9,786
—— benzoin, 224 poods	11,619
Handkerchiefs, ſilk	4,513
—————— cotton	32,627
—————— linen	2,475
Hops, 203 poods	4,392
Indigo, 6305 poods	1,030,029
Inſtruments for mechanics	85,376
—————— muſical	49,214
—————— mathematical and ſurgical	13,951
—————— ſtrings for muſical inſtruments	1,813
Ivory and tortoiſe-ſhell	3,614
Lead, 37,894 poods	122,140
—— ore	2,389
—— pencils	1,437
Lemons and oranges, freſh	219,478
—— peel dried, 5064 poods	29,140
—— dried, 993 poods	7,388
—— ſalted, 262 pipes	18,001
—— juice, 760 ankers	13,952
Linen of various ſorts, 51,181 arſhines	67,849
Madder, 13,873 poods	126,564
Maſtick, 155 poods	8,666
Muſtard, 462 poods	6,817
Nails, braſs and tin, 1266 poods	11,828
Needles, 58 millions	56,410

Nuts,

	Rubles.
Nuts, wallnuts, filberds, piſtachio, cheſnuts, &c.	6,602
Oil, ſweet, 14,089 poods	182,485
—— of various ſorts	11,364
Olives, 150 poods	1,955
Otter ſkins, 8517 ſkins	74,809
Paper, poſt, 2959 reams	25,658
—— patria, 5861 reams	37,510
—— cards, notes, &c. 1950 reams	10,814
—— royal and medium, 495 reams	8,647
—— printing paper, and coarſe	5,258
—— muſic paper, ruled and notes	5,543
Pearls and corals	6,815
Pearl-barley, 9871 poods	35,885
Pepper, 3481 poods	69,604
Pictures and engravings	115,680
Prunes, 10,200 poods	38,989
Quickſilver, 983 poods	73,546
Raiſins, 313 poods	1,932
Razors, 5148 dozen	13,380
Ribbons, plain, of ſundry ſorts	14,362
Reeds of various kinds	17,028
Rice, 27,172 poods	100,190
Sacharum Saturni, 1590 poods	36,850
Saffron, 466 pounds	5,468
Sago, 85 poods	1,050
Sal ammoniac, 1258 poods	30,417
Saps, ſundry	1,285
Scythes, 288,910	135,410
Sheet-yellow, 322 poods	12,833
Shoemaker's awls	7,807
Silk goods, velvets, 13,117 arſhines	92,226
—— ſattins, 13,368 arſhines	23,590
—— taffety and gros de tours 17,366	16,379
—— various other ſilks, 1,780 arſhines	1,886
—— raw and dyed ſilk, 1587 poods	482,695
Sealing-wax, 16 poods	1,391

Silver,

	Rubles.
Silver, wrought	47,666
Soap, 144 poods	3,062
Spectacles and glaſſes	4,039
Spelter, 9516 poods	58,900
Steel, 1220 poods	10,143
Stockings, ſilk, 363 dozen	20,707
——— worſted and yarn, 5540 dozen	53,597
——— cotton and thread, 2250 dozen	32,331
Stone-ware, veſſels of earth and clay	96,250
—— porcelaine and potters earth	16,359
—— quarry, mill, whet and grindſtones	11,948
—— tripoly, pumice, emery, ſerpentin and bloodſtone	13,423
—— tiles and bricks	5,655
—— gun-flints, 185 poods	2,727
—— coals	12,600
—— amber	2,340
Storax, 59 poods	4,503
Sugar, raw, 111,104 poods	128,653
Sugar rafinade, 139,717 poods	2,791,845
——— molaſſes, 14,360 poods	250,973
——— loaf, 3583 poods	56,593
——— candy, 412 poods	9,493
Syphons of various ſorts, 1186 doz.	7,040
Tartar, 1209 poods	9,150
Tea, 42 poods	4,353
Terebinth and varniſh, 3006 poods	24,478
Tin, 5595 poods	81,078
—— 389,179 plates	44,743
Tobacco, ſmoking, 532 poods	13,653
——— ſnuff, 549 poods	15,666
——— roll and leaf, 2330 poods	24,157
Trinkets	47,251
Verdegris, 800 poods	39,254
Violet-roots, galingal, &c. 853 poods	13,256
Vitriol, 474 poods	1,095

Vitriol,

	Rubles.
Vitriol, oil, 1753 poods	17,966
Wares, ſundry ſhop-wares	16,294
——— not named in the tarif	50,467
——— utenſils of braſs, tin, &c.	11,339
Waters, mineral	41,717
——— ſweet-ſcented	8,986
Wines, french (indirect), 3640 hogſheads	367,223
——— portugueſe (direct and indirect), 4441	319,982
——— ſpaniſh (direct and indirect), 1903	118,704
——— greek and other light table wines, 697	110,404
——— rheniſh, moſelle, &c. 210 hogſheads	37,544
——— italian (direct and indirect), 380 hogſheads	20,770
——— burgundy, 6140 bottles	10,784
——— liquors, ſtrong, 3180 bottles	8,680
——— brandy, 2702 ankers	46,444
——— arrack, rum and ſhrub, 698 ankers	33,825
——— ſweet brandy, 144 ankers	9,961
Woods, red ſandal, 7910 poods	35,556
——— blue, 22,949 poods	60,487
——— yellow, 3748 poods	9,912
——— ſundry other dyeing woods, 3588	27,643
——— for carriages, furniture, &c.	88,038
——— garden and foreſt-trees	25,153
——— wooden-ware	851
Woollen and camlet goods, baize, broad, 113,708 arſhines	148,180
——— ——— narrow, 493,639 arſhines	352,846
——— ——— tammies, 265,632 arſhines	118,937
——— ——— camlets, 39,894 arſhines	17,705
——— ——— flannels, 57,043 arſhines	18,672
——— ——— ſundry ſtuffs, 25,849 arſhines	20,717
——— ——— flag-cloth, 164,655 arſhines	39,000
——— ——— carpets and hangings	20,160
——— ——— wool of ſeveral kinds, 428 poods	16,671
——— ——— camlet yarn, 182 poods	19,148
Total	19,367,954

PRODUCTS EXPORTED *from all the Ports of the Ruſſian Empire, except thoſe of the Caſpian, in the year* 1793.

Products.	Quantity.	Value in rubles.
Hemp and heads of hemp	2,774,728 pood	6,066,615
Iron in bars and ſorted -	2,995,332	5,159,692
Flax and heads of flax -	1,146,125	4,504,100
Tallow and tallow-candles -	1,069,253	4,449,000
Corn, rye, wheat, barley, oats, and flour	22,909 laſt, 208,526 chetv. - - -	3,123,005
Sailcloth, ſacking, and raventuch - -		2,408,670
Yufts and leather - - -		2,249,701
Maſts, balks, deals, and various kinds of wood		1,744,208
Linen and napkin-cloth - -		1,678,701
Linſeed and hempſeed	141,210 ton, 65,721 ch.	1,111,554
Hogs' briſtles - -	36,717 pood	742,513
Hemp-oil and linſeed-oil	235,687	697,366
Iſinglas - - -	6,221	451,539
Skins and furs - - -		396,317
Potaſhes - -	114,895	394,438
Wax and wax-candles -	18,874	378,303
Cables and cordage -	103,667	259,590
Mats - - -	1,936,126 pieces	248,557
Kaviar - -	37,950 pood	188,397
Pitch and tar (with 788 ton of roſin - - - -	341,239	150,581
Butter - - -	23,527	120,334
Train-oil - -	43,504	106,332
Soap - - - -	21,489	87,440
Feathers and down -	10,551	85,168
Corn-brandy and other ſpirits	3971 oxh. 9 ankers	66,218
Sundry ſhop goods - - -		58,865
Sheep-wool - - -	23,797 pood	45,805

Plate

Product.	Quantity.	Value in rubles.
Plate iron, kettles, and other caſt-iron ware	37,917	44,433
Horſe-hair (with 63,054 horſe-tails)	15,456	42,802
Beef (with 33,862 neats-tongues)	7,674	41,833
Salt	168,296 chetv.	23,679
Apothecary's drugs (incl. 22½ pood rhubarb		19,871
Tobacco	8,924 pood	19,240
Gold and ſilver ware, 13 pood, 29 pound		16,005
Glue	2,041 pood	15,184
Caſtoreum	11¾	14,810
Tea	255	13,404
Peaſe and griſt, 3084 pood, 695 chetv.		11,072
Shoes, boots, ſlippers, and kangees		10,625
Fiſh, 7073 pood, 70 tons		10,440
Carriages, calaſhes, &c.		9,750
Trinkets		7,745
Mammoht's bones and morſe teeth	190 pood	6,163
Honey and ſyrup	1,142	5,572
Aniſe and cummin	1,573	5,532
Raw cotton	93	4,238
Wrought and unwrought copper	187	2,910
Live oxen and cows	89 head	1,643
Horſes	17	1,282
Garden-ſeeds	155 tonn.	1,621
Total Export		37,328,192

A more particular Specification of ſome of the Products exported in the foregoing Liſt.

Products.	Quantity.	Value in rubles.
Hemp, clean	2,223,065 pood	5,031,270
——— outſhot	154,701	324,086
——— half clean	248,183	512,576
——— codilla	148,779	198,683
Bar-iron	2,503,757	4,258,228
Sorted	491,575	901,464
Flax, 12-headed	868,327	3,664,485
—— 9-headed	154,231	556,580
——— 6-headed	83,616	227,039
——— codilla	39,951	55,996
Tallow	1,035,529	4,279,090
Tallow-candles	33,724	169,910
Rye and rye-flour, 15,858 laſts, and 2 chetv.		1,379,001
Wheat and wheat-flour, 3623 laſts, & 206,128 ch.		1,490,356
Barley and barley-meal, 3162 laſts, and 525 chetv.		236,044
Oats, 266 laſts, and 1871 chetverts		17,604
Sailcloth, 50,466 pieces, and 78 ſails		846,351
Coarſe linen for ſacking	1,407,950 arſhines	91,153
Raventuch	99,575 pieces	1,471,166
Yufts or ruſſia leather	124,340 pood	1,942,984
Leather, tanned, calf, goat, &c.	40,965 ſkins	56,065
Pump and ſole leather	25,432 pood	250,652
Maſts	891 in num.	43,063
Spars	2,158	19,999
Bowſprits and yards	195	5,830
Balks of various ſorts	128,936	163,118
Deals, pine and fir	2,956,671	1,026,190
Carriage-poles	26,677	375,967
Lath-wood	14,135	51,775
Pipe-ſtaves	64,981	25,463
Sundry other kinds of wood		32,803

Fine

Products.	Quantity.	Value of rubles.
Fine linen - -	486,144 arſhines	85,554
Printed linen -	36,154	6,403
Fine diaper, with 280 table-cloths, and 869 napkins, 3984 arſhines - - -		5,586
Ordinary diaper -	608,455 arſhines	123,031
Flemiſh linen - - -	55,853 pieces	1,158,788
Calimanco - - -	813,872 arſhines	254,520
Bierenzeug - -	159,473	44,819
Linſeed, 119,939 tonn. and 65,716 chetverts		1,037,513
Hempſeed, 21,271 tonn. and 1 chetvert		74,041
Sables - -	44 ſkins, and 1 ſack	442
Fox and marten-ſkins 1754	26 ſacks	8,543
Ermine and rock-fox 7186	29 -	13,309
Wolf-ſkins and furs 348	56 -	3,325
Squirrel-ſkins - 122,810	2,897 -	26,712
White-hare and cat-ſkins - - 98,033	2,113 -	31,723
Grey-hare ſkins - 509,237	- -	266,215
Lambſkins - 19,347	517 -	14,864
Bearſkins - 1,513	- -	18,013
Sheepſkins - 580	- -	4,886
Muffs and ſundry furs -	- -	8,305

Duty free, and therefore are exported without declaring their value:

Printed books, 8812, and

Pictures and copper-plate engravings, 26,178.

Few readers need be informed that ſome articles which are not permitted to be ſent abroad, as ſalt and ſpirits, are not to be regarded as exportation, but only as tranſportation from one port of Ruſſia to another.

From the foregoing liſts are ſeen at one view the main articles of export, or the ſources of the national wealth of Ruſſia. They are 50 in number, following each other in regular ſucceſſion according to their importance. The chief production of the ruſſian empire is therefore hemp; next follow iron, flax, tallow, corn, ſail-cloth, leather, wood, &c.—Theſe 8 articles of themſelves make nearly 30 millions.

List of the several Ports, and the Share which each had in the foregoing Exports, valued in Rubles.

	Rubles.
St. Peterſburg	23,757,954
Riga	8,985,929
Archangel	2,525,208
Taganrok	428,087
Eupatoria	334,398
Narva	238,555
Otchakof	209,321
Pernau	189,131
Cronſtadt	157,365
Kherſon	147,822
Vyborg	124,832
Reval	109,897
Feodoſia	54,281
Friedrichſhamm	31,374
Kertſch	9,960
Onega	9,552
Arenſburg	9,346
Yenikaly	4,322
Sevaſtopol	858
	37,328,192

Compariſon

Compariſon of the Amount of the Exportation in 1768 with that of 1793 in Rubles.

	In 1768.	In 1793.	Increaſe of exp. 1793.
Iron	1,443,000	5,159,000	3,716,000
Tallow	750,000	4,279,000	3,529,000
Hemp	2,795,000	6,066,000	3,271,000
Flax	1,683,000	4,504,000	2,821,000
Wheat	177,000	1,490,000	1,313,000
Wood, various kinds	585,000	1,744,000	1,159,000
Yufts and leather	1,115,000	2,249,000	1,134,000
Rye	577,000	1,379,000	802,000
Briſtles	88,000	742,000	654,000
Linſeed	433,000	1,037,000	604,000
Sail-cloth	281,000	846,000	565,000
Hemp and linſeed oil	255,000	697,000	442,000
Iſinglaſs	79,000	451,000	372,000
Potaſhes	57,000	394,000	337,000
Wax and candles	77,000	378,000	301,000
Hare-ſkins	58,000	266,000	208,000
Mats	59,000	248,000	189,000
Cables and cordage	85,000	259,000	174,000
Kaviar	41,000	188,000	147,000
Tallow candles	64,000	169,000	105,000
Pitch, tar, roſin	82,000	150,000	68,000
Soap	48,000	87,000	39,000
Train-oil	80,000	106,000	26,000
Small iron wares	20,000	44,000	24,000
	21,193,000	63,575,000	42,382,000

Of the following Articles the Export was lower in the laſt-mentioned Year:

	1768.	1793.	Exceſs of 1768.
	Rubles.	Rubles.	Rubles.
Furs - -	490,000	396,000	94,000
Raw and wrought copper	53,000	2,910	50,090
Live oxen - -	31,000	1,643	29,357
Hemp-ſeed - -	93,000	74,000	19,000
Rbubarb - -	8,200	2,467	5,733
	675,200	477,020	198,180

The value of the exports of the above 29 articles in the year 1793 exceeded, therefore, the value of the ſame articles in 1768 by 21,801,820 rubles.

Courſe of Exchange at St. Peterſburg in Bank-Notes with 1 *per Cent. agio.*

		On Amſterdam at 65 days date per ruble. Dutch ſtuyvers.		On London at 3 months date per ruble. Pence Sterling.	
1790.	Dec. 31.	28⅝	28½	29¾	29½
1791.	Dec. 30.	27⅞	28	0	29¼
1792.	Dec. 31.	26¼	26⅜	0	23
1793.	Dec. 30.	25½	25¼	25¾	25⅜
1794.	Dec. 29.	0	25¼	0	28¼
1795.	Dec. 28.	30½	30¼	33	32¾
1796.	Dec. 30.	31½	31¼	32¼	32
1797.	Dec. 29.	29	29¼	27¼	27½

Number

Number of Britiſh and American Ships arrived at St. Peterſburg.

	Britiſh.	American.
In 1791	525	20
1792	606	24
1793	542	30
1794	533	43
1795	529	42
1796	684	59
1797	440	26
1798	619	39
1799	456	62

The following Liſt will ſhew the Riſe in the Price of the Ruſſian Exports.

	In 1767.		In 1795.	
A pood of iron coſt 65 to 74 kop.	1 ruble, 40	to 65 kop.		
A pood of hogs' briſtles, beſt 5 rubles 20 to 30 kop.			20	to 21 rub.
A pood of kaviar	2		5½	6
A berkovetch of flax, beſt	21	to 22	53	58
——— ſecond ſort	18		43	54
——— heads	4½	6	6	8
A berkovetch of hemp, beſt	15	15¼	41	
——— ſecond ſort	14	30		
——— third ſort	12	13	27	28
——— heads	4	4¼	14	15
Fine yufts, the pood 5	55 to 80		14	15½
Copper, per pood	7	8	70	16½

	In 1767.		In 1795.	
Raventuch, per piece -	5½		12	14¾
Flemiſh linen, per piece	6	75	18	20
Sail-cloth, per piece -	5¼		22	26
Diaper, per 1000 arſhines	70		160	
Ticking of Zatrapeznof, per arſhine 50 kopeeks - - -			1 ruble 20 to 30 k.	
Hare-ſkins for hats, per 1000 - - -	140	150	525	560

Goods imported at St. Peterſburg in 1796, *with their Amount in Rubles.*

	Rubles.
Alabaster, marble and ſtucco, wrought and unwrought - - -	123,237
Ale and porter, 7033 caſks - -	469,217
Almonds, 9938 poods - - -	124,194
Aloes, 604 poods - - -	16,686
Alum, 38,610 poods - - -	192,296
Animals; horſes - - -	152,850
——— oxen, cows, &c. - -	6,100
——— to ſtuff - - -	6,528
——— fowls, living - -	5,024
Antimony, 977 poods - -	7,404
Apples and pears, freſh - - -	45,890
ſundry other fruits, freſh - -	512
Apples and pears, dried, 791 poods - -	4,995
ſundry other fruits, dried - -	921
Arms - - - - -	2,094
Barley, peeled, 7914 poods - -	35,381
Beads, glaſs, 1185 poods - -	13,390

	Rubles.
Beaver-ſkins, 9595 ſkins	74,225
Books, printed	47,075
Borax, 475 poods	18,552
Braſs furniture for commodes, cabinets, doors, &c.	30,428
Butter, 652 poods	6,125
Cacao, 377 poods	5,359
Camphire, 445 poods	41,361
Canes	5,081
Capers, 643 poods	17,577
Cardamums, 64 pound	1,700
Cards, for play, 3337 dozen	6,552
Ceruſs, 6,701 poods	44,025
Cheeſe, parmeſan, 1251 poods	23,370
——— all other ſorts, 7117 poods	52,729
Cherries, dried, 197 poods	1,665
Chocolate, 52 poods	1,620
Cinnaber, 326 poods	20,963
Cinnamon, 200 poods	12,671
Clocks	10,478
Clothes, old and new	31,445
Cloths, fine broad, 624,191 arſhines	3,115,032
——— ſmall ordinary, 1,836,802 arſhines	3,251,990
——— half, or eſpagnolettes, 64,242 arſhines,	116,866
——— edges, 843,691 arſhines	16,750
Cloves, 421 poods	53,657
Cochineal, 1989 poods	483,972
Coffee, 39,525 poods	833,692
Colours, divers	6,500
Copper, 60 poods	1,500
Corals	4,670
Cork, in pieces, 9770 poods	44,650
——— cut for bottles, 1859 poods	32,410
Cotton-goods; raw, white, and dyed, 121 poods	10,355
——— ſpun and dyed, 16 pood	2,210

Cotton,

	Rubles.
Cotton, calicoes, white and mitkal, 3,387,977 arſhines	1,240,736
——— muſlin, 136,944 arſhines	135,522
——— cambric and batiſte, 270 arſhines	853
——— velverets, 213,986 arſhines	136,222
——— ſtuffs, ſtitched and quilted, 8548 arſhines	11,272
——— chintz, 35,466 arſhines	21,115
——— fuſtian, 3278 arſhines	1,270
——— ſtuffs, ſundry, 75,275 arſhines	33,665
——— thickſets and pluſh, 1619 arſhines	1,180
——— canifaſſes, 5046 arſhines	5,819
——— handkerchiefs, 6430 dozen	60,876
Coverlets, ſeveral ſorts	10,372
Criſtal-ſaturni, 910 poods	19,836
—— tartari, 941 poods	11,391
Crucibles and matrices	4,227
Curcuma, 906 poods	19,290
Curioſities, natural and mineral	146,355
Currants, 7769 poods	22,733
Diamonds and precious ſtones	66,900
Drugs, raw	313,656
——— prepared	6,206
Figs, 3435 poods	20,984
Fiſh; herrings, ſwediſh and northern, 35,276 barrels	275,402
—— engliſh and dutch, 365 barrels	19,035
—— ſmoked, ſalted, and dried	3,408
Fleſh, ſmoked, ſalted, and dried, alſo tongues and ſauſages, 851 poods	10,288
Furs, various ſorts	132,545
Galingal, 397 poods	9,510
Gall-nuts, 524 poods	8,315
Garden-ſeeds and plants	16,222
Ginger, 1553 poods	27,767
Glaſs, window	3,576

Goods

	Rubles.
Goods not mentioned in the tarif	92,295
—— of white iron, japanned	9,326
Gum, ſenega and arabic, 2517 poods	54,779
—— ſundry ſorts, 651 poods	19,873
—— frankincenſe, common, 212 poods	1,953
—— benzoin, 393 poods	22,139
Hops, 743 poods	10,110
Indigo, 10,287 poods	1,599,990
Inſtruments of iron and ſteel for mechanics	81,756
—— muſical	70,853
—— mathematical and ſurgical	6,051
—— ſtrings for muſical inſtruments	3,181
Iron, white, 422,275 plates	63,230
—— double plates, 16,000	6,700
Ivory and tortoiſe-ſhell	6,538
Lead, 55,473 poods	174,042
—— ore, red and black, 433 poods	2,610
—— pencils, common, 5871 dozen	876
—— fine, 538 dozen	943
Lemons and oranges, freſh	238,338
—— peel, 1246 poods	6,405
—— dried, 363 poods	2,934
—— ſalted, 59 pipes	3,300
—— juice, 2702 ankers	9,623
Linen, 64,150 arſhines	82,158
Madder, 24,824 poods	241,690
Maſtick, 65 poods	2,640
Mercery	23,572
Miniature-colours	2,287
Minium, 508 poods	2,608
Mount-blue, 183 poods	6,620
Muſtard, 1026 poods	18,382
Nails, braſs and tin	7,895
Needles, 28¼ millions	28,367
Nuts; nutmeg, 58 poods	23,951

Nuts;

	Rubles.
Nuts; mace, 300 pounds	4,271
—— hazel, wall, cocoa, and piſtachio	6,545
Oil, perfumed	24,710
Oyſters	15,301
Orlean, 608 poods	15,339
Olive-oil, 24,975 poods	250,377
Olives, 653 poods	12,710
Orpiment, 297 poods	5,110
Orſeille, 223 poods	3,651
Otter-ſkins, 11,996 ſkins	105,148
Paper; poſt, 4442 reams	32,880
—— patria, 3267 reams	20,601
—— imperial, royal, and medium, 400 reams	9,753
—— cards, notes, and other ſorts	7,720
Pearls	6,600
Pepper, 6797 poods	131,346
Pictures and ſculptures	352,712
Pimento, 682 poods	7,050
Prunes, 6236 poods	27,347
Quickſilver, 308 poods	21,595
Quills, 144 thouſand	3,008
Raiſins, 13,767 poods	49,627
Razors, 3590 doz.	12,001
Reeds, for weaving	4,525
Ribands, even, ſundry ſorts	7,306
Rice, 18,661 poods	78,060
Saffron, 610 pounds	8,375
Sago, 42 poods	621
Sal-ammoniac, 2315 pood	62,870
Saps, ſundry	2,491
Sealing-wax, 16½ poods	1,452
Shut-yellow, 490 poods	4,139
Silken goods; raw and dyed, 1953 poods	493,783
—— ſattins, plain, 26,720 arſhines	40,440
—— taffety, plain, 11,631 arſhines	10,880

Silken

	Rubles.
Silken gros-de-tours, plain, 1624 arſhines -	2,403
Velvets, plain, 348 arſhines - -	2,770
—— handkerchiefs, 1716 - -	11,660
—— half-ſilk with cotton, 157 doz. -	3,000
Silver, wrought - - - -	5,635
Siphons, braſs, &c. 710 doz. - -	4,247
Soap, 984 poods - - -	18,840
Spectacles - - - -	6,350
Spelter, 15,430 poods - -	132,555
Steel, 1553 poods - -	9,125
Stockings, ſilk, 561 doz. - -	28,158
—— cotton and thread, 4157 doz. -	53,995
—— worſted and yarn, 4722 doz. -	45,003
Stone ware; porcelaine - -	8,207
—— earthen and ſtone - -	68,650
—— tiles, pantiles, and bricks -	11,280
—— quarry, mill, whet, and grindſtone	3,029
—— marcaſite, tripoly, pumice, emery, ſerpentine, &c. - -	11,431
—— coals - - -	68,250
Storax, 47 poods - - -	2,345
Sugar; refinade, 215,682 poods - -	4,107,644
—— melaſſes, 36,515 poods - -	638,030
—— loaf, 13,920 poods - -	229,660
—— candy, 910 poods - -	22,216
—— raw, 32,882 poods - -	383,558
Scythes, 343,608 - - -	151,003
Tartar, 2650 poods - - -	20,703
Tea, 56 poods - - -	5,916
Teazels - - -	4,150
Terebinth oil, 2510 poods - -	14,345
—— varniſh, 596 poods - -	7,635
Tin, 13,775 poods - -	191,257
Tobacco; cnaſter, 22 poods - -	1,607
—— common ſmoking, 1640 poods -	32,420

Tobacco;

	Rubles.
Tobacco; roll and leaf, 1798 poods	17,297
——— ſnuff, 1265 poods	19,257
——— clay pipes	2,024
——— horn pipes	2,770
Trinkets	47,710
Utenſils, glaſs and cryſtal	10,291
Verdegris, 1090 poods	60,977
Vitriol, 105 poods	907
——— oil, 1091 poods	18,515
Vinegar, 2145 hogſheads	50,996
Violet-roots, 286 poods	2,243
Wafers, 162 poods	377
Waters, mineral	14,283
——— ſcented	2,386
Wines; ſpaniſh, 11,679 hogſheads	815,643
——— portugueze, 5873 hogſheads	522,5[illegible]2
——— hungary, 405 hogſheads	105,650
——— italian, 715 do.	61,493
——— rheniſh, mozel, &c. 332 do.	44,635
——— grecian, 423 do.	18,424
——— liquors, 21 do.	7,992
——— brandy, arrack, rum, and ſhrub, 112 do.	32,605
Wood; ſandal, red, 40,747 poods	111,807
——— blue, 1241 do.	3,854
——— yellow, 1655 do.	6,863
——— dye woods, 2837 do.	23,120
——— ſaſſafras, cedar, &c.	57,974
——— trees, of various ſorts	9,766
Woollen goods; yarn, white, ſpun, and dyed, 238 poods	10,871
——— camels hair, 103 do.	112,112
——— carpets and hangings	21,930
——— baize, narrow, 618,302 arſhines	438,922
——— ——— broad, 111,762 do.	128,945
——— ——— fine, 1766 do.	4,974

Woollen

	Rubles.
Woollen goods; tammies, 213,601 poods -	91,608
——— camlets, 69,136 do. -	31,974
——— ſtamines, everlaſtings, barracans, calimancos, ſerges, &c. 70,445 do. - -	29,111
——— flannels, 17,659 do. -	7,237
Total	26,355,890

Goods exported in Britiſh Ships from St. Peterſburg, 1798.

Iron - - - -	poods	2,352,217
Hemp, clean - -	-	1,510,683
——— outſhot - -	-	156,057
——— half clean - -	-	35,393
——— codilla - -	-	31,660
Flax, twelve-headed -	-	469,526
——— nine-headed - -	-	12,645
——— ſix-headed - -	-	1,907
——— codilla - -	-	35,481
Iſinglaſs - -	-	5,186
Briſtles - -	-	22,918
Hides - - -	-	440
Tallow - -	-	1,064,249
Potaſh - - -	-	79,371
Cordage - -	-	32,135
Old iron - -	-	24,860
Feathers - - -	-	4,490

Linſeed

Linſeed	chetv.	57,116
Broad diaper	arſhines	257,693
Narrow diaper		445,978
Broad linen		107,852
Narrow linen		515,197
Craſh		2,110,249
Drillings	pieces	17,273
Flems		36,071
Raventuchs		111,774
Sail-cloth		2,440
Table-cloths		111
Napkins		314
Balks		7,957
Scantlings		900
Maſts and ſpars		754
Lathwood		112,701
Pale boards		4,234
Deals		3,127,594
Mats		10,119
Hoop iron	poods	2,120
Tallow-candles		2,302
Linſeed oil		466
Salt beef		9,678
Horſe-hair		584
Cow-hair		2,473
Elk-hair		393
Raw ſilk		18
Rhubarb	poods	236½
Wax		2,185
Glue		1,188
Copper		63
Roſin		1,914
Old rope		1,688
Soap		14
Down		15
Caſtoreum		27

Wheat

Wheat	chetverts	472
Printed linens	arſhines	360
Ticking	pieces	19
Horſe tails		286
Deer horns		500
Oxen horns		1000
Ruſſia leather		78
Calf ſkins		700
Hare ſkins		59,156
Bear ſkins		693
Squirrel ſkins		146
Marten ſkins		37
Sable ſkins		26
Ermine ſkins		50
Deer ſkins		135
Cat ſkins		144
Fox ſkins		235
Fox tails		10,770
Tongues		13,000

Merchant-Ships arrived and ſailed 1797.

OF DIFFERENT NATIONS.	Arrived	Sailed	WINTERING at Cronſtadt	WINTERING at St. Peterſb.
Ruſſian	56	56	13	3
Britiſh	440	432	8	—
American	26	20	—	—
Of Bremen	11	11	—	—
Of Dantzic	8	8	1	2
Of Hamburg	3	4	—	—
Daniſh	104	94	7	3
Courlanders	1	1	—	—
Of Lubek	43	36	8	—
Of Oldenburg	9	8	—	1
Pruſſian	44	38	—	1
Of Papenburg	5	5	—	—
Portugueze	7	3	4	—
Of Roſtock	54	53	1	—
Swediſh	76	65	9	2
Hollander, of the year 1796	—	—	1	—
In all	887	840	52	10

Ships arrived in 1796 . 1,147
failed 1,169
Therefore this year are fewer . 259 329
Of theſe ſhips were full freighted 259
not full . 208
in ballaſt 422
889

Burden of theſe ſhips in laſts
of the arrived 76,584½
failed 77,345½

Remained to winter from 1796	8			
New built	6			
Brought to Cronſtadt by the ice	1			
In all	902			

Expences

Expences on Goods for Exportation and Importation at St. Peterſburg, according to the new Regulation of 1798.

EXPENCES ON MERCHANDISES OF EXPORTATION.

	Common receipt. R.	K.	Purchaſe in winter, more. R.	K.
Wax candles, per box	0	40	0	10
—— with package	0	60	0	0
Calimanco, per piece	0	8	0	3
Caſtoreum, per pood	1	80	0	70
Caviar, per barrel	1	50	0	80
Tallow candles, per box	0	20	0	10
—— with package	0	40	0	0
Hemp, firſt ſort, per bundle	1	25	0	75
—— for the bands	0	30	0	0
—— ſecond ſort	1	0	0	60
—— for the bands	0	20	0	0
—— third ſort	1	0	0	60
—— for the bands	0	15	0	0
—— codilla	0	0	0	0
—— with the bands	0	60	0	40
Wax, per pood	0	25	0	10
Iſinglaſs	0	50	0	20
Horſe-hair, per bale	2	0	0	70
Yufts, or ruſſian leather, per bundle	0	25	0	5
Sole and pump leather, per 20 pieces	2	0	0	60
Bar iron, per berkovetch	0	10	0	5
—— ſorted and hoop	0	15	0	5
Wheat, per chetvert	0	15	0	3
Hempſeed and linſeed	0	10	0	3
Hempſeed oil and linſeed oil, per barrel	1	50	1	0

	Common receipt. R.	K.	Purchaſe in winter, more. R.	K.
Hops (ſacks apart)	0	10	0	5
Seal blubber	1	50	1	0
Flax, 1ſt, 2d, and 3d ſort, without the expence of package, by bundle	0	10	0	5
—— for the bands, by berkovetch	0	8	0	0
—— in bundles, with package, by bundle	1	20	0	60
—— for the bands, by berkovetch	0	10	0	0
—— codilla, including the expence of the bands, by bundle	0	80	0	40
(For the package apart.)				
Mats, by the thouſand	2	0	1	20
Goat-ſkins, per hundred	0	50	0	25
Elk-ſkins in bundles of 20, per bundle	2	0	0	80
Squirrels ſkins, per thouſand	1	50	0	40
Hare-ſkins, 1050, per bundle	3	50	1	0
Ditto, with package in barrels, per barrel	4	50	1	0
Potaſh (package apart)	1	50	0	80
Raventuchs, per piece	0	10	0	3
Roſin and coliphonium, per berkovetch	0	80	0	40
Rhubarb, per pood	1	0	0	50
Saltpetre	0	10	0	5
Soap in boxes (boxes apart)	0	10	0	3
Barley, per chetvert	0	10	0	3
Briſtles, per pood	0	15	0	5
Tallow, per caſk	1	0	0	50
—— per half-caſk	0	60	0	40
Tobacco in caſks (and for preſſing apart) per pood	0	5	0	2
Tea, per pood	1	0	0	25
Linens, white, of various ſorts, per thouſand arſhines	1	50	0	50
Sail-cloth in ſmall parcels, per piece	0	15	0	5

	Common receipt. R. K.	Purchaſe in winter, more. R. K.
Sail-cloth in bales of 20 rouleaux, per roul.	0 25	0 5
——— ſlems, per piece	0 10	0 3
Potaſh, per caſk	1 50	0 80
All ſorts of wood amounting to 10 per cent. and the tranſport to Cronſtadt apart.		

Liſt of Brackages on Articles of Merchandiſe for Exportation.

	R.	K.
Corn, per chetvert.		
Kaviar, per barrel	1	0
Hemp, and heads of hemp, per berkovetch	0	12
Iſinglaſs, per pood	0	25
Horſe hair and tails	0	5
Red leather or yufts	0	4
Hempſeed and linſeed, per chetvert.		
——— oil, per pood	0	1½
Seal blubber	0	1½
Flax, and heads of flax, per berkovetch	0	25
Hare-ſkins, per thouſand	2	0
Potaſh, per caſk	0	50
Rhubarb, per pood	4	0
Briſtles	0	5
Tallow, per caſk	0	7
Tobacco in leaves, per pood	0	2

EXPENCES ON MERCHANDISES OF IMPORTATION.

	Sale on unloading. R.	K.	Sale retarded more. R.	K.
Steel, per caſk	0	40	0	10
Alum, per berkovetch	1	0	0	40
Almonds, per pood	0	15	0	5
Woods, ſandal, red, blue, yellow, per berkovetch	0	75	0	45
Corks, by the thouſand	0	15	0	5
Coffee, per pood	0	20	0	10
Camphir	0	60	0	20
Cinnamon, cardamums, nutmegs, &c.	1	50	0	75
Shalloons, camlets, calimancos, &c. per piece	0	8	0	5
Oranges and lemons, per box	0	20	0	10
Lemons ſalted, per barrel	1	0	0	70
Lemon juice, per caſk (cellarage apart)	0	20	0	5
Orange and lemon peel, per pood	0	10	0	5
Cochenille, per pood	1	0	0	50
Dyes; madder, ſafflower, and other common colours, per pood	0	15	0	20
Cloths, fine, per piece	0	30	0	20
——— half cloths and kerſemere	0	20	0	10
——— ordinary ſileſian, &c.	0	20	0	10
——— (for bracking 25 kop. apart)				
Pewter, in pigs	0	15	0	5
Scythes, per hundred	0	30	0	10
Flannels and frizes, per piece	0	25	0	15
Cheeſe, per pood	0	15	0	10
Ginger	0	15	0	10
Cloves	1	0	0	50
Herrings, dutch, in barrels, $\frac{1}{2}$ and $\frac{1}{4}$ per barrel	0	50	0	25
——— in $\frac{1}{8}$ and $\frac{1}{16}$ barrels, per barrel	0	10	0	5
——— of Sweden and Norway, per barrel	0	40	0	10

Herrings,

	Sale on unloading. R.	K.	Sale retarded more. R.	K.
Herrings, (for bracking, per ton 20 per cent. apart for ditto in ½, ¼, ⅛, and 1/16 barrels, per barrel 10 kop. apart.)				
Oil of olives, in barrels, per pood (beſides cellarage and cooperage)	0	10	0	5
——— in flaſk, per caſe	0	75	0	25
— of turpentine, &c. per pood	0	15	0	10
Oyſters, per barrel	1	50	0	0
Indigo, per pood	0	50	0	30
Nut galls	0	15	0	6
Pearl barley	0	10	0	5
Paper, large ſize, per ream	0	20	0	10
——— ſmall	0	8	0	2
——— in cards, &c.	0	10	0	5
Beaver and otter-ſkins, per 10 pieces	0	80	0	40
Tobacco pipes, per groſs	0	10	0	5
Lead, per berkovetch	0	60	0	15
Pepper and pimento, per pood	0	15	0	5
Prunes in caſks, per pood	0	10	0	5
——— in boxes, per box	0	20	0	10
Raiſins and figs in ſmall caſks, per pood	0	15	0	10
——— in large caſks, per pood	0	10	0	5
——— in boxes	0	25	0	10
Rice	0	10	0	5
Saffron	2	0	1	0
Spelter or tutenague	0	15	0	10
Silk, raw	1	50	0	50
Sulphur and ſaltpetre, (without expence of keeping) per berkovetch	0	70	0	30
Sugar of all ſorts, per pood	0	15	0	10
——— raw, in caſks	0	10	0	5
——— in boxes	0	20	0	5
——— candy	0	35	0	10

	Sale on unloading. R.	K.	Sale retarded more. R.	K.
Tobacco in rolls	0	15	0	5
——— ſmoking	0	25	0	15
Tartar	0	7	0	3
Tea	1	0	0	23
Printed cottons and perſians, per piece	0	15	0	10
Verdegris and ſal ammoniac, per pood	0	20	0	10
Quickſilver, vermillion, orlean, ſarſaparilla, &c.	0	30	0	10
Wines and ſpirits, per caſk	1	75	1	0
——— per bottle	3	0	1	50
——— fine, in bottles, per bottle	0		0	2
——— ordinary	0	2	0	1
——— in ſmall barrels, per barrel	1	0	0	50
(Cellarage of theſe liquors apart.)				
Vinegar —— ditto, per caſk	1	0	0	70
Glaſs of Bohemia, per caſe	0	75	0	40
—— of Mecklenberg and Pomerania	0	40	0	20

Commiſſions for the Diſpatch of Merchant Ships.

	Rubles.
For a veſſel of 25 laſts and under	20
25 to 50 laſts	30
50 to 75	40
75 to 100	50
100 to 150	75
upwards of 150 laſts	100
For packing the freight, 3 per cent.	
looking after the loading, 2 per cent.	
paſſports from the cuſtom-houſe and the admiralty	15

Church

	Rubles.
Church dues for each veſſel, 5 rubles here, and 2 rubles at Cronſtadt - - -	7
River charges, or ordinary anchorage, for all ſhips according to the freight, (except in ſpecie) 5 per cent.	
(However, when the bill of lading mentions an equivalent for the ordinary anchorage, theſe 5 per cents. are not paid.)	

Commiſſions, Brokerages, &c.

	Pr. cent.
Commiſſion on all merchandizes imported and exported - - -	2
extraordinary charges for ditto -	1
on precious ſtones - - -	5
for rix dollars, ducats, and other ſpecies -	1
for caſing, paying, or remitting monies -	1
for affairs of exchange - -	½
and extraordinary charges for the delivery of goods - - -	2
for the adminiſtration of a failure -	3
for the purſuit and recovery of doubtful debts	5
Brokerage for the purchaſe and ſale of all merchandizes - - - -	½
for exchange of all kinds of money, and for letters of exchange - -	¼
on loading and unloading, per laſt, 25 kopeeks	
Cuſtom-houſe charges according to the amount of the duties - - -	4
Stamp duties, per thouſand rubles, 2 rubles.	

Balance

Balance of the Imperial Loan-Bank for the Year 1794.

DEBIT.	R.	K.
To the original capital of the bank, anno 1754	404,560	36
the former bank of Moſco	1,403,412	10½
aſſignations-bank	26,447,086	87¾
by ſupreme command, paid in by the late general-procureur prince Vaſemſkoy	478,011	35¾
by the late high-ſteward Yelagin	9,820	66½
the legacy of prince Kantimir	102,834	2¼
from the ſecurity-bank	21,382	77
from the revenues of the eſtates Bogoroditza and Bobrikovitch	103,425	64
the fund for the erection of univerſities and ſchools	858,587	61½
the capital of the St. George's order	527,358	29¾
the college of commerce	5,509	56½
the artillery cadet-corps	34,774	74¾
the academy of ſciences	30,367	50
the court-ſtable kantora	121,852	1¾
the ſchool direction	122,856	2
the general poſt direction	441,247	72½
the magiſtracy of St. Peterſburg	8,126	43½
the college of general concern of do.	90,675	79¾
the proviſion magazine of do.	464,532	28¼
the finance-chamber of Moſco	45,720	22¼
of St. Peterſb.	2,072	46½
the printing-office of the ſynod	31,230	
the monaſtery of St. Sergius	12,563	75
St. Cyril	4,006	50

To

	R.	K.
To ſundry private perſons -	4,987,249	11½
the imperial finance-office, St. Peterſ-burg - - -	4,955	48¾
ſeveral, for ſums ſent in without proper explanation - -	7,188	71½
intereſt for taxes paid before due -	42	50
the aſſurance office - -	56,148	73¾
the capital of the bank - -	1,782,319	10¼
Total	38,540,468	39½

CONSISTING IN

	R.	K.
Gold and ſilver -	1,273,507	60
Aſſignats and copper	37,266,960	79

CONTRA CREDIT.

	R.	K.
By various debtors for 8 years -	11,081,140	8½
20 - -	17,333,369	50½
22 - -	7,841,538	70½
the bank of Ekatarinoſlaf -	1,213,016	19¼
in caiſſe - -	1,071,403	90¼
Total	38,540,468	39½

Amount of the Goods imported and exported by the following Merchants, at St. Peterſburg, 1797, valued in Rubles.

	Imported.	Exported.
Amburger, Fried. Wilh. -	242,781	661,719
Amburger and ſon - -	206,595	513,531
Anderſon, Brown, and Moberley	368,981	564,427
Andry, Michael - -	11,440	——
Arhuſen, Adolphus -	122,817	146,806
Auld, Robert - -	4,053	77,100
Bacheracht, Gabriel -	323,880	159,243
Balemann, Bernh. Heinr. -	8,482	1,104
Barnes, John Samuel -	——	226,188
Barwick, William - -	157,890	219,011
Bayley, Daniel - -	——	737,921
Becker, Caſpar - -	6,895	209
Belenkien, Oſſip - -	229,863	——
Bellermann, Joh. Chriſt. -	42,878	21,392
Bergien, Joh. Chriſt. -	76,125	3,956
Bernhardt, Joh. Ludwig -	6,410	——
Birch, George - -	52,921	447,584
Blandow, Joh. Jakob -	315,065	1,137,911
Bock, Hermann - -	346,816	62,464
Böhtlingk, Heinr. Wilh. -	1,270,605	1,346,918
Boiſſonet, Jean Bapt. -	5,095	25
Bolien, Johann - -	5,662	4,065
Bond and Littledale	7,770	134,175
Borel, Joſeph - -	17,821	——
Boriſſof, Ivan	17,489	——
Brandſletter, Franz	156,521	28,441
Bremer, J.	93,[illegible]17	103,623
Bruckner, J. G.	85,425	36,115

Bruhn,

	Imported.	Exported.
Bruhn, Hans Heinrich	30,177	147,769
Bulkeley, John M.	37,116	501,495
Buſk, Brothers	140,789	357,180
Carr and company	7,283	952,977
Carſtens, Johann.	337,378	15,022
Cattleys, Preſcott, and company	73,214	1,628,193
Cavanaugh and company	142,249	59,951
Chambers, Anthony	7,960	4,000
Clarkſon, Thomas	6,378	———
Cloſtermann, Hermann	19,170	———
Colombi, Antoine	41,251	66,326
Cörner, Chriſt. Aug.	36,848	65,778
Cox and company	59,938	209,470
Cramer, Bened.	15,260	376
Culot, Paſcal	27,822	———
Dahler, Chriſtian	187,752	12,551
Danckel, James	———	19,100
Danckwerz, Gabr. Ludwig	53,995	134,953
Daſer, Johann.	37,586	1,680
Defkien, Alexey	———	11,053
Deforge, Barth.	13,446	3,207
Dobolien, Ivan	323	17,284
Dolgof, Afanaſi	42,501	74,060
Drury, Anthony	30,813	200
Duval, Louis David	33,316	———
Eiſermann, Joh. Matth.	47,160	17,817
Eyſſel van, Hendrick	380,801	100,398
Felbinger, Joh. Heinr.	7,462	700
Fiers, Salomon	42,302	14,500
Filippof, Ivan	95,763	96,652
Flury, Friedrich	15,633	3,755
Forreſter, Robert	33,381	53,307
Forſyth, David	24,726	126,513
Franz, Joh. Friedr.	13,325	———
Gardner, Francis	———	65,890
Gars, Carl Ferd.	65,887	329,706

	Imported.	Exported.
Gilmore and company	1,840	72,915
Gilmore, Peter	9,888	37,990
Glen and company	60,501	537,346
Gluchof, Martin	42,100	9,835
Gnutof, Vaſſily	9,750	———
Grooten, Joh. Philip	172,890	81,740
Gubien, Mikhaila	6,858	2,400
Gulich, Peter	128,727	74,865
Günther, Joh. Vinc.	8,226	1,125
Hawkesford, Samuel	6,077	1,360
Häſeler, Joh. Nicol.	217,993	222,600
Hambeck, F.	91,766	90,619
Hámilton, Archibald	55,588	68,064
Haſſe, Joh. Heinr.	23,717	16,109
Hekker, Dirk	30,417	87,752
Henly, Samuel	92,717	———
Hett, Sebaſtian	19,711	7,585
Heyn, Albert	101,045	26,821
Higginbotham, John	———	138,250
Höppener, Thom. Fried.	39,597	490
Holliday, John	8,332	———
Hott, Joachim	———	70,154
Hoy and Bellis	182,164	85,200
Hulſenbeck, Joh. Fried.	31,243	174,061
Jagodnikof's ſons	14,500	———
Janſchien's ſons	51,331	———
Jencquel, Daniel	19,918	118,148
Illien, Feodor	17,225	———
Jones and company	166,947	609,662
Iroſchnikof, Vaſſily	187,792	———
Ivanof, Andrey	23,964	———
Kaluſtof, Martin	48,800	———
Kanzler, J. H.	20,107	3,32[illegible]
Karaſſof, Vaſſily	69,60[illegible]	———
Karpof, Feodor	4,750	[illegible]
Kiepper, George	15,425	[illegible]

	Imported.	Exported.
Kierenhof, Gregory	131,185	20,000
Knieper, Peter	94,497	89,818
Knutſon, Detlef	155	13,124
Koſchennikof, Peter	45,112	———
Kreſtovnikof, Kuſmin	16,422	———
Kroſcher, William	19,829	———
Kruſchevnikof, Alexey	49,008	———
Kumanin, Alexey	20,766	———
Kummel and Bleiſig	269,900	451,907
Kuſzof, Ivan	303,141	71,865
Lacoſte, Jean	1,079	6,295
Lange, brothers	13,619	———
Laptief, Ivan	151,922	———
Levanus, Peter	1,992	11,578
Little, James	525	25,417
Livio, brothers	233,559	100
Mahs, Joachim	67,837	674,660
Mackintoſh, John	13,600	———
Mareſchal, Philip	———	6,094
Marſch, Johann Ernſt	26,601	43,000
Marſch, George	7,703	———
Meder, Chriſtian	228,706	180,827
Meeſe, Heinrich	110,384	———
Meibohm and company	250,291	137,258
Mercer, Thomas	3,153	7,933
Mitropolof, Gavrila	21,851	———
Molwo, Jacob	698,905	49,260
Müller, Caſpar	11,324	———
Müller and Ritter	197,282	93,267
Muſehl, Friedr. Albr.	59,547	3,910
Newel, Robert	111,910	18,450
Paris, Warre, Harvey, and comp.	1,117,298	3,013,961
Paſkof, Ivan	5,250	———
Pickerſgill and company	16,135	———
Gar[illegible]ng, Joſ. Henry	95,671	88
Ca[illegible]rs, C[illegible]ikof, Peter	256,841	———

	Imported.	Exported.
Porter, Browne, Wilſon, and comp.	100,374	424,877
Poſchegonof, Gregory	44,084	———
Preyſler, Gabriel	26,124	———
Raikes, Timothy	99,283	382,553
Raimbert and company	19,451	250
Rall, Alexander	75,759	143,270
Richter, Joh. Friedr.	50,976	746,095
Ritches, William	5,018	———
Rogers and company	261,078	234,807
Saizof, Feodor	416,157	6,278
Samareyef, Borice	75,624	4,616
Schadimirof, Alexey	122,644	154
Schapkin, Andrey	———	29,130
Scharapof, Gregory	3,237	25,120
Schevaldiſchef, Foma	12,868	———
Schiele, Joh. Bernh.	2,311	12,021
Scholai, Jean	35,729	19,941
Schröder, Andr. Jacob	59,010	52,479
Schumacher, Herrmann	315,512	711,390
Schveſnikof, Jacob	30,604	20
Scougal, George	66,951	212,143
Sera and Ribba	119,667	249,483
Severin, Heinr. Gottfr.	740,846	163,780
Shairps and company	218,011	748,436
Sievers, Thomas	21,683	472
Sikaar, Peter Iſaac	66,198	200
Simonſen, Aſmus	32,354	55,675
Siricius, George Magnus	48,163	67,791
Sittnikof, Simeon and Feodor	369,000	———
Slinin, Yephim	35,574	4,305
Smith, Edw. James, and company	19,468	597,328
Smith, Thomas	10,452	———
Speder, Chriſtopher	17,149	26,686
Steffens, J. C. M.	12,010	3,622
Stuht, Joh. Heinr.	34,381	7,202
Sunduſchnikof, Alexey	41,739	———

Suvarof,

	Imported.	Exported.
Savarof, Alexey - -	———	65,700
Swan, Thomas - -	8,243	———
Tald, Chriſt. David -	92,179	19,266
Thieringk, Anth. Fried. -	116,524	194,962
Thomſon, Peters, Bonar, & comp.	705,981	3,152,528
Thornton and Cayley -	59,476	1,016,783
Thorntons, Smalley, Bayley, & comp.	13,015	1,668,586
Tſchigaref, Vaſſily - -	15,600	———
Turtſchenjnof, Vladimir -	46,963	———
Turuth, Andrey - -	34,110	3,137
Ulich, Friedrich - -	13,660	———
Uſtiyef, Yegor - -	45,750	———
Velho, J. P. C. - -	255,735	205,224
Venning, William and George -	1,932	419,715
Vernon, Thomas - -	9,900	115,130
Viazzoli and company -	226,324	292,840
Vliet van der, Pieter - -	103,806	36,338
Wagnon, Henry Samuel -	38,213	———
Weber, Leonard - -	47,067	29,061
Wendt, Levis - -	104,204	31,341
Werthmann, Mich. Fried. -	261,532	105,683
Weſtley, John - -	9,566	42,957
Whitaker, James - -	89,829	9,950
Whiſhaw and Henley -	157,440	154,086
Wilkins, Caleb - -	———	9,191
Wittneben, Johann - -	64,724	111,611
Wolff, Friedrich - -	134,684	187,939
Wulffert, Carl - -	29,758	———
Wurn, Joh. Guſtav. - -	1,115	11,388
	19,265,284	32,090,901
By ſeveral merchants, ſtrangers, and travellers - -	100,775	360,010
Total rubles	19,366,059	32,450,911

Goods exported in Britiſh Ships from St. Peterſburg, in the year 1799.

Iron	poods	1,591,775
Hemp, clean		1,276,114
——— outſhot		355,795
——— half clean		162,721
——— codilla		52,552
Flax, twelve-headed		341,927
——— nine-headed		83,017
——— ſix-headed		2,073
——— codilla		17,879
Iſinglaſs		4,950
Briſtles		27,873
Hides		977
Tallow		1,385,704
Tallow-candles		3,708
Potaſh		82,574
Horſe-hair		1,469
Cow-hair		1,298
Feathers		4,225
Old iron		17,590
Broad diaper	arſhines	280,437
Narrow diaper		309,372
Broad linen		133,416
Narrow linen		499,801
Craſh		1,592,453
Drillings	pieces	7,424
Flems		61,589
Raventuchs		126,159
Sail-cloth		3,654
Mats		14,890
Tongues		16,444
Deals		321,562
Lathwood		15,520
Linſeed	curty.	43,871
Wheat		4,055
		Hoop

Hoop iron	poods	409
Caſt iron		1,231
Wax		1,943
Wax-candles		5
Cordage		40,811
Glue		875
Elk-hair		261
Sole leather		80
Hemp oil		52
Linſeed oil		1,321
Soap		1,577
Old rope		469
Oakum		315
Caviar		96
Cotton		699
Deer horns		500
Reindeer horns		69
Salt beef		2,793
Iron nails		210
Rhubarb		86½
Caſtoreum		20
Printed linens	arſhines	500
Ticking	pieces	12
Table-cloths		41
Napkins		18
Wooden hoops		1,875
Oxen horns		5,000
Horſe tails		3,650
Morocco leather		7
Calf ſkins		77
Hare ſkins		1,310,700
Bear ſkins	pieces	1,608
Fox ſkins		131
Squirrel ſkins		50
Sable ſkins		3
Marten ſkins		36
Ermine ſkins		48
Cat ſkins		72

Number of Ships arrived in 1799.

456 britiſh
62 american
253 other nations

771 ſhips.

Value in rubles of Goods exported and imported by merchants and other perſons of different nations at St. Peterſburg and Cronſtadt in 1799.

THE SEVERAL NATIONS.	VALUE OF THE MERCHANDISES. Imported. Rubles.	Exported. Rubles.
Ruſſian	11,322,123	8,254,643
Engliſh	7,344,130	29,229,057
Auſtrian	68,488	30,580
Daniſh	122,357	272,916
Mecklenburg	1,115	2,040
Portugueſe	93,891	175,932
Italian	800	50
Swediſh	2,171	
Other nations and paſſengers	204,455	7,519
Maſters of ſhips	131,249	197,188
Total	19,290,779	38,169,925
The exports exceed the imports by	18,879,146	
In 1798 the amount was	25,038,020	36,552,476
Therefore, this year 1799 the exports are more by		1,617,449
And the importation is in this year leſs by	6,645,241	

Amount

Amount of all the Duties and Impoſts received at the Cuſtom-houſe in 1799.

Duties in dollars, 2521 poods, 37 pounds, 52 ſolotniks - in ducats, 5 poods, 14 pounds, 36 ſolotniks -	which make in rubles	2,043,981
in money of the country - -		1,610,745

Other Duties, viz.

from the towns - -	57,236
of different denominations - -	972,222
Total	4,684,184
In 1798 the amount was - -	4,219,325
Therefore, this year, 1799, there is an increaſe of	464,859

Gold and Silver imported.

		pood	lb.	ſolotn.	rubles
Gold in ducats 15,698	making	3	10	82	66,825
Silver in bars 40 - -		40	31	—	44,700
in 542,503 Albert dollars		921	38	28	1,128,820
in different ſpecies, 84 -		—	1	—	30
	Total				1,240,375
In 1798 the amount was - -					894,156
Therefore, in 1799 the ſurplus was - -					346,219

Ships cleared inwards and outwards 1799.

	Arrived	Sailed	WINTERED at Cronſtadt	WINTERED at St. Peterſb.
Ruſſian	17	20	—	1
Engliſh	456	455	2	—
Lubeckers	63	63	—	6
Danes	37	37	1	—
Pruſſian	34	32	1	1
Roſtockers	36	35	1	—
Portugueze	2	—	2	—
American	62	62	—	—
Dantzickers	7	5	2	—
Swedes	56	51	2	3
Of Bremen	2	2	—	—
Of Oldenburg	3	4	—	—
Of Papenburg	4	4	—	—
Spaniards, of 1796	—	—	1	—
In all	779	770	12	11
Ships arrived and ſailed in 1798	1052	1104	3	9
Thus this year, 1799, there have been fewer	273	334	—	—

Of theſe ſhips had their full cargoes 255
not full . 151
in ballaſt 373

779

Burden of theſe ſhips in laſts
of the arrived . 64,350
of the ſailed out . 64,567

Value

Value of the Ruble by the Courſe of Exchange at St. Peterſburg, 1799.

	DUTCH STUYVERS.			PENCE STERLING.			HAMBURGH SCHILLINGS.			VIENNA KREUTZERS.		
	Higheſt	Mean	Loweſt	Higheſt	Mean	Loweſt	Higheſt	Mean	Loweſt	Higheſt	Mean	Loweſt
January	27 7/8	27 1/2	27 1/4	26 1/4	25 3/4	25 1/4	23 7/8	23 1/2	23 1/4	—	—	—
February	27 1/2	27	26 1/2	25 1/2	25	24 1/2	23 1/2	23	22 1/4	—	—	—
March	26 1/2	25 1/2	24 3/8	24 3/4	23 7/8	23	22 3/4	21 7/8	21	65	—	65
April	25 3/4	24 3/4	23 3/4	25 1/8	24	22 3/4	22 5/8	21 3/4	20 3/4	68	67 1/2	67
May	25 3/4	25 3/8	25	26	25 1/8	24 1/2	21 7/8	21 1/2	21	67	66	65
June	26	25 3/4	25 1/2	26 1/2	26 1/8	25 3/4	22 1/2	22 1/4	21 7/8	66	65 1/2	65
July	26 1/2	25 7/8	25 1/4	27	26 3/8	25 3/4	23	22 1/8	22 1/4	69	68 1/2	68
Auguſt	26	25 3/4	25 1/2	27 1/2	26 1/4	26	23	22 1/2	22	68	67	66
September	25 5/8	25	24 1/4	30 1/2	28 3/4	27	22 1/4	21 7/8	21 1/2	68	67 3/4	67 1/2
October	25 3/4	25 1/4	24 3/4	32	31	30	22	21 1/8	20 1/4	68	—	—
November	24	23 1/2	23	30 3/4	28 7/8	27	21	20 1/2	20	—	—	—
December	23 3/4	22 7/8	22	28 3/4	28 1/4	27 3/4	20 3/4	20 3/8	20	—	—	—

Amount of the Goods imported and exported by the following Merchants, at St. Peterſburg, 1799, valued in Rubles.

	Imported.	Exported.
AGARS, Edmund - -	63,204	172,002
Alexander, Francis - -	13,660	——
Alexeyef, Simeon - -	9,432	[illegible]
Amburger, Fried. Wilh. -	195,222	621,281
Amburger and ſon - -	232,851	253,960
Anderſon, Brown, and Moberley	479,996	1,280,541
Annot, Joſeph - -	6,130	——
Arhuſen and ſons - -	331,180	116,197
Auld, Robert - -	——	133,084
Bacheracht and ſons -	216,536	40,988
Bagge and van Eyſſel - -	208,434	222,581
Barnes, John Samuel -	186,590	288,340
Barwick, William - -	500,312	286,341
Bayley, Daniel - -	——	709,790
Bazancourt, Morzfeld, and company - - -	14,379	80,933
Belenkien, Oſſip - -	209,627	——
Bellermann, Joh. Chriſt. -	44,753	5,988
Bergien and company -	10,654	25,761
Berd, Charles - -	7,093	——
Birch, George - -	480	451,590
Blandow, brothers -	462,318	1,626,115
Bluhmer, Caſpar - -	17,500	——
Bocks, widow, and ſon -	65,370	27,509
Bœhtlingk and company -	1,120,802	341,817
Boiſſonet, Jean Bapt. -	15,707	——
Bond and Littledale -	61,892	448,691
Borel, Joſeph - -	9,142	——

Brandtſtædter,

	Imported.	Exported.
Brandtſtædter, Francis -	95,447	11,626
Brown, John - -	9,410	——
Bulkeley, John M. - -	80,230	423,436
Buſk, brothers - -	167,373	1,092,177
Canzler, Juſtus Herm. -	62,369	31,317
Carr and company - -	18,835	417,379
Carſtens, Johannes - -	284,054	24,774
Cazalet and company -	14,542	32,607
Catelays, Preſcott, and company	295,411	2,301,371
Cavanaugh and company -	1,935	——
- Francis - -	10,460	8,683
Cörner, Chriſt. Aug. -	24,136	16,301
Cox and company - -	287,975	86,775
Dahler, Chriſtian - -	307,088	76,544
Danckwerz, Gabr. Ludwig -	21,250	34,130
Dannenberg, Carl - -	18,110	2,904
Daſer, Johann. - -	53,339	——
Demourtier, Pierre - -	3,050	——
Defkien, Alexey - -	——	23,676
Dickinſon, Francis - -	12,383	——
Dobolin, Johann. - -	2,000	——
Edemann, Carl - -	38,373	——
Eiſermann, Joh. Matth. -	49,391	11,804
Feverier, Henri - -	6,368	——
Fiers, Salomon - -	37,468	5,600
Filippof, Ivan - -	81,351	9,436
Forreſter and company -	30,452	254,113
Forreſter, Robert - -	20,710	563,531
Gardner, Francis - -	——	122,859
Giers and Kock - -	69,605	126,710
Gilmore, Peter - -	25,490	40,344
Gilmore and company -	——	53,976
Glen and company -	133,659	1,323,172
Glukhof, Martin - -	64,540	——
Golaſchef, Cuſma - -	2,250	——
Golindoy, George - -	88,849	9,850

Gr[illegible]ſchef,

	Imported.	Exported.
Gratſchef, Yeſime	13,800	——
Grand, A. and C.	75,760	332,693
Gribbanof, Matfey	12,637	——
Grooten, J. P. and F.	36,183	41,088
Gubien, Mikhaila	27,837	——
Günther, Joh. Vinc.	13,450	——
Hæſeler, Joh. Nicol. and comp.	103,363	131,323
Hamilton, Archibald	87,882	182,904
Haſſe, Joh. Heinr.	88,410	120,765
Hawkesford, Samuel	4,492	24,434
Hekker, Dirk	29,980	34,895
Heyn, Albert	17,555	17,946
Higginbotham, John	17,730	329,199
Hoffbauer and company	119,809	17,193
Hœppener, Thom. Fried.	12,347	——
Hoy and Bellis	270,103	——
Hubbard and company	489,716	733,367
Hulſenbeck, Joh. Fried.	18,344	231,405
Jackſon, John	13,404	——
Jagodnikof, Peter	31,700	——
Janſchiens and ſons	8,959	15,523
Janſen, Jan	27,109	——
Jedin, Mikhaila	14,208	38,374
Jencquel, Daniel	14,680	108,175
Inberts, John	28,701	——
Jones and company	85,570	1,321,884
Ireſchnikof, Vaſſily	73,750	——
Kaluſtof, Avdote, and Martin	62,790	——
Kammen, von	1,244	15,264
Karpof, Feodor	4,500	——
Kieryakof, Gregory	203,788	——
Knauf, André	11,300	2,355
Knieper, Peter	61,564	36,697
Knutzen, Detlef	2,570	47,284
Kreſtovnikof, Kuſmin	14,865	——
Krehmer, Joh. Andreas	104,180	15,911

Koſchefnikof,

	Imported.	Exported.
Kolchevnikof, Peter -	205,559	———
Krouk and Kokobus - -	1,546	———
Kumanin, Alexey - -	15,000	———
Kummell and Bleffig -	276,646	273,677
Kuftzof, Ivan - -	278,631	20,836
Laptyef, Ivan - -	190,518	———
Levanus, Peter - -	———	17,869
Livio, brothers, and company -	289,610	100,274
Mahs, Gottlieb - -	133,143	554,022
Marfch, Johann E. -	57,337	15,142
Marfh, George - -	47,987	———
Meefe, Heinrich, and company -	122,357	272,916
Meibohm and company -	216,538	63,688
Mentfhikof, Nicolai - -	8,517	———
Mercer, George, and Thomas -	19,336	103,720
Minden, van, Chriſt. Arend. -	19,040	391,491
Miton, Roman - -	9,478	———
Mitropolof, Alexand and Peter -	———	32,266
Mitropolof, Gavriela -	27,600	———
Mitropolof, Afanafy - -	12,700	———
Molwo, Jacob - -	316,465	17,028
Molwo and fon - -	52,992	6,276
Motte, de la, Pierre - -	9,450	———
Müller and Ritter - -	132,631	44,042
Mufehl, Friedr. Albr. -	50,110	5,082
Noel, Robert - -	44,045	18,319
Paris, Warre, Harvey, and comp.	1,067,216	3,484,908
Paſkof, Ivan -	25,411	———
Pflug, Gabriel - -	———	104,597
Pym, Edward - -	———	14,809
Pittſchalnikof and ſons - -	213,500	———
Porter, Browne, Wilſon, and comp.	96,887	1,137,416
Poſchegonof, Gregory -	49,745	———
Preyſler, Gabriel - -	16,963	———
Raikes, Timothy - -	79,971	463,578
Raimbert and company -	7,400	3,228

	Imported.	Exported.
Rall, Alexander	190,231	165,094
Ribienſkoy, Peter	74,607	3,100
Ries, Franz.	7,095	——
Ritches, William	5,110	——
Saitzof, Feodor	279,314	——
Sanderſon, Robert	5,117	——
Samareyef, Boris	27,221	3,260
Schademerof, Alexey	156,983	——
Schademerof, Jacob	24,500	——
Schambers, Anton	10,920	——
Scharples, Thomas	127,537	103,752
Scherapof, Gregory	7,000	103,752
Schiele, Joh. Bernh.	7,500	18,020
Schegarof, Vaſſilly	103,685	——
Schipof, Ivan	6,796	——
Schnackenburg, Joh. Ludv.	19,582	2,979
Schœnbaum, Balth.	2,171	——
Schœnberg and company	464,064	144,973
Schrœder, Michael	22,503	70,377
Schumacher and company	333,052	437,157
Schveſnikof, Jacob	13,877	3,456
Scougal, George	124,924	471,299
Serfally, Sebaſtian	3,500	——
Severin and ſons	483,191	122,540
Shairps and company	406,715	818,809
Sievers, Thomas, and ſon	28,783	——
Sikaar, Peter Iſaac	76,039	1,270
Simonſen, Aſmus	22,858	56,282
Siricius and ſons	13,446	78,301
Sittnikof, Simeon and Feodor	183,069	——
Slinin, Yefime	47,580	——
Smith, Edw. James, and company	20,919	610,317
Stephens, J. C. M.	1,040	1,546
Stuht, Joh. Heinr.	14,542	——
Suvorof, Alexey	——	124,949
Talanof, Prokofey	——	8,909

Tahl,

	Imported.	Exported.
Tam, Chriſt. David	44,122	2,409
Taylor, John	8,703	——
Thiringk, Anth. Fried.	71,009	203,935
Thom, Anton	21,169	75,502
Thomſon, Bonar, and company	1,162,411	3,919,017
Thornton and Cayley	175,921	1,329,100
Thorntons, Smalley, Bailey, and company	189,781	1,633,796
Uſtiof, Peter	22,625	——
Uvarof, Ivan	51,444	——
Velho, J. P. C.	93,891	175,932
Venning, William and George	21,156	236,405
Vernon, Thomas, and company	69,783	269,580
Viazzoli and company	68,488	30,589
Villeneuf de, Charles	65,865	32,165
Vliet van der, Pieter	81,990	15,435
Weber, Leonard	58,590	20,605
Wendt and Cramer,	245,722	2,770
Wehrtmann, J. M. F.	319,007	188,478
Weſtley, John	27,084	——
Whitaker, James	115,957	19,092
Whitford, Charles	6,750	50
Wilkins, junior	4,700	6,217
Whiſhaw and Henley	33,050	779,098
Wittneben, Johann.	12,465	28,307
Wolff, Friederick	5,400	——
Wolff and Schluſſer	85,406	102,070
Wulffert, Carl	3,135	——
Wurm, Johann Guſtav.	20,200	40,544
Zanuzzi, Anna	6,230	——
Zemſen, Filip	8,290	1,025
Rubles	19,694,151	37,663,590
By ſeveral noblemen	476,583	118,621
By ſeveral travellers, maſters of ſhips, and private perſons	2,529	387,714
Total rubles	20,173,263	38,169,925

Prices of the ſeveral articles of proviſion and neceſſaries at St. Peterſburg, January 1800.

Beef.—Freſh beef, 4 rubles the pood; frozen, 2 rubles 80 kopeeks: this article will continue nearly at the ſame price until late in June, when it uſually falls to 2 rubles 40 kopeeks or 2 rubles 80 kopeeks.

Veal.—Now from 6 rubles to 8 rubles the pood.

Mutton.—From 4 rubles 80 kopeeks to 6 rubles.

Pork.—From 4 rubles to 4 rubles 80 kopeeks.

Ham.—Through the year 4 rubles 80 kopeeks the pood.

Tallow-candles.—At this moment high; 8 rubles to 10 rubles.

Wax-candles.—Sixty-five kopeeks the pound, or 26 rubles per pood.

Soap.—

Butter.—Coloniſt butter from 40 kopeeks to 60 kopeeks the pound; Finn's butter 15 kopeeks to 20 kopeeks; and Ruſſian butter from 12 kopeeks to 15 kopeeks.

Milk.—Ten kopeeks the bottle.

Cheeſe.—Twenty rubles the pood engliſh: little of any ſort for ſale.

Eggs.—Freſh, 80 kopeeks for 10; but others, from 15 kopeeks to 18 kopeeks.

Gooſe.—Seventy kopeeks, 80 kopeeks, and 90 kopeeks.

Duck.—Sixty kopeeks and 70 kopeeks.

Chickens.—Seventy kopeeks and 80 kopeeks per pair.

Fowls.—One ruble 20 kopeeks, and 1 ruble 40 kopeeks per pair: capons from 2 rubles to 3 rubles per pair,

Pigeons.—Fifty kopeeks and 60 kopeeks per pair, not in full feather.

Turkey.—From 1 ruble 20 kopeeks to 3 rubles each.

Rabbits.—One ruble 20 kopeeks, or 1 ruble 40 kopeeks per pair; very fine.

Hare.—Forty kopeeks; very large.

Wheat-meal.—Two rubles 60 kopeeks the pood; the very beſt.

Barley-meal.—None to be had.

Oats.

Oats.—Three rubles 80 kopeeks; and 4 rubles 50 kopeeks per cool; the very beſt.

Bread.—Seventy-five kopeeks the pood, of good rye.

Oil.—The Florence flaſk 65 kopeeks, or 15 rubles 60 kopeeks the caſe, 24 flaſks.

Vinegar.—From 1 ruble to 6 rubles the gallon.

Beer.—From a ruſſian brewer 8 rubles the hogſhead, from an engliſh brewer 20 rubles the hogſhead; but the former being generally very foul and muddy, few foreigners ever taſte it.

Brandy.—Sixty-five rubles the anker.

Salt.—Forty-five kopeeks the pood; but raiſed to 60 kopeeks lately.

Coffee.—Forty rubles the pood.

Sugar.—Twenty-two rubles the pood.

Tea.—From 3 rubles to 7 rubles; but little of the latter here, it is more plentiful in Moſco.

Wood.—From 4 rubles to 6 rubles 50 kopeeks the fathom.

Charcoal.—The ruſs-cooi, or mat-bag, 20 kopeeks, or 22 kopeeks.

Snuff.—Manufactured in Ruſſia very cheap, but foreign the contrary.

Tobacco.—From 60 kopeeks to 6 rubles the pound.

Servant.—Per month 15 rubles, clothes, food.

Coachman.—Ten rubles per month, without food, but clothes provided.

Cook.—From 10 rubles to 15 rubles per month; but a foreigner 30 rubles or 40 rubles per month.

Maid-ſervant.—From 3 rubles to 5 rubles per month.

Keep of a ſaddle-horſe.—Eighteen rubles per month.

Two coach horſes.—To hire; from 50 rubles to 60 rubles per month, coachman included.

A governor or tutor.—Five hundred rubles or 600 rubles per annum; many french for much leſs.

Waſhing.

Waſhing.—Shirt 10 kopeeks; ſtockings, ſilk 15 kopeeks, cotton 5 kopeeks; cravat 4 kopeeks; waiſtcoat 10 kopeeks; breeches 15 kopeeks; handkerchief 3 kopeeks.

Phyſician.—Ten rubles.

Carriage.—To hire; One hundred rubles per month.

Lacquay.—Per day, 1 ruble; per month, 25 rubles.

Wines.—The beſt old port 350 rubles the pipe; table port 250 rubles; chateau margot 250 rubles the hogſhead; medoc 150 rubles the hogſhead; madeira 300 rubles the hogſhead; champagne, the caſe 50 bottles, 200 rubles; Rhine wine from 1 ruble 50 kopeeks to 3 rubles 50 kopeeks per bottle; hungary wine from 2 rubles 50 kopeeks to 6 rubles the bottle.

SECTION VI.

Of Coins, Meaſures, and Weights.

We learn from hiſtory, that previous to the tenth century neither foreign nor domeſtic coin was known in Ruſſia. Inſtead of it ſmall pieces of marten and ſquirrel-ſkins, ſtamped, were the only currency. But, from that period, frequent mention is made in the chronicles of grecian and other ſorts of money. It is the opinion of ſome, that the firſt coins were introduced by the Tartars into Ruſſia, and that the ruſſian word for money, denghi, is derived from the tartarian word tanga, which ſignifies a token; but, that when coins were impreſſed with the arms of Moſco,

Moſco, namely, a St. George with his ſpear, the name kopeeka aroſe from kopæ, or kopeitzo, a ſpear. There was, however, at that time no mint in Ruſſia, nor was the right of coining a prerogative of majeſty; but the gold and ſilver ſmiths ſtruck the coins, any one of whom might convert his uncoined ſilver, with a moderate allowance for his work, into coined money of equal weight. So early as 1469 mention is made of ſuch a deneſchnoi-maſter, (money-maker,) Ivan Fraſin by name*. Nearly about the ſame time coins were alſo ſtruck by the merchants of Novgorod and Pſcove, which cities were connected with the german Hanſa, and afterwards the Engliſh obtained licence in their letters patent of the year 1569 to ſtamp dollars and little pieces of money in Moſco, Novgorod, and Pſcove. It is known too that coins were even ſtruck before this in the ſeveral reſidence-towns of the partitioned princes, as in Tver, Riazan, &c. At laſt, however, tzar Ivan Vaſſillievitch about the ſame period, namely, towards the middle of the 16th century, inſtituted the firſt regular coinage, ſet up a mint at Moſco, and cauſed three rubles to be ſtruck

* The grand prince Ivan Vaſſillievitch I. took, as has already been mentioned, into his ſervice in 1475, a certain Ariſtoteles of Bononia (or Bologna) who was his architect, ſtatuary, founder, and at the ſame time his maſter of the mint. Pet. journ. 1782, tom. ii. p. 91.

out of one grivenka*. In the mean time we have ruſſian coins of the moſcovian ſovereign, which probably were ſtruck about the year 1420†. In the reign of Ivan Vaſſillievitch the ruſſian coinage began in general to acquire a totally different form, and the various denominations of ſpecie were ordered to be coined after a certain alloy and weight. Yet at this time, and a long while afterwards, the RUBLE was only an imaginary coin. The firſt actual rubles were ſtruck during the reign of tzar Alexèy Mikhailovitch in the year 1654, though hiſtory makes mention of the ruble already about the year 1317. Whereas we have oblong ſilver kopeeks of that period and later. In general, till towards the end of the 17th century, more of the ſmall ſorts than the

* What the grivna, grivenka, nagoti, &c. properly were, whether really ſtamped coin, or, as is much more probable, a certain weight of ſilver, and how much, is not yet agreed on.

† Yet Leveſque ſays, "Ce fut ſous le regne de Vaſſili "Dmitrovitch, qu'on commença à frapper en Ruſſie de "l'argent monnoyé. Il montoit ſur le trone 1389. Moſcou "& Tver etaient les premieres à employer une monnoie "tatare nommé *denga*. — Novgorod prit la reſolution en "1420 de battre elle-même ſa propre monnoie." Hiſt. de Ruſſie, tom. ii. p. 265. See Bachmeiſter, beſchreib. des nat. kab. Alſo prince Schtſcherbatof, Pet. journ. 1781, tom. ii. p. 59.

large

large of ruſſian coins were ſtruck *. According to Olearius, under the laſt-mentioned tzar the german dollars were in ſtrong circulation as large coin, which probably had chiefly been brought in through the hanſeatic commerce. Out of theſe very dollars (not from ſilver bars) the rubles were

* "Tzar Mikhaila Feodorovitch," ſays Olearius, "cauſed "his own coin to be ſtruck in the country, and in four dif- "ferent cities, Moſco, Naugard, (Novgorod,) Tver, and "Pſcove, coined of pure ſilver, and ſometimes of gold, all "little monies, as likewiſe the little daniſh ſechſlings, "ſmaller ſtill than the german pfennings, partly round and "partly oblong. On one ſide was commonly a horſeman "ſticking with a ſpear a dragon which he had ſubdued; "before this was only the naugardian arms, but on the other "ſide the grand prince's name, and the town where it was "coined. Theſe ſorts were called deng (denga, denuſchka) "and kopeck, each equal to a holland ſtuyver, or near as "much as a half meiſſniſcher, or a holſteiniſch groſch, "going (according to the relative value of money at that "time) 50 to a rix-dollar. They have yet ſmaller ſorts, as, "half and quarter kopeeks, which they call poluſkè (po- "luſchka) or muſkoſkè. It is difficult to trade with them "on account of theſe little bitlings, as they eaſily ſlip "through the fingers; therefore it is cuſtomary with the "Ruſſians, when they are going to look at or meaſure out "goods, to take the kopeeks, frequently fifty together in "their mouths, continuing to talk and to act, ſo that they "cannot be perceived. — They bargain by altines, griffen, "(grieveniks,) and rubles; though they have in fact not "thoſe ſorts of money in whole pieces, yet have them in "certain numbers of kopeeks; an altine in three, a griff in "ten, and a ruble in a hundred kopeeks." Adam Olearius, reiſebeſchreibung nach Moſko, &c. Schleſvig 1663, p. 223.

at that time ſtruck. But likewiſe other dollars were recoined into ruſſian rubles; thus, for example, the firſt ruble of 1654 is ſtill extant, and it is eaſily diſcernible to have been previouſly a ſpaniſh croſs-dollar*. — A foreign dollar then paſſed for 50 kopeeks. But the war that ſhortly after broke out with Poland, perplexed the ruſſian finances; and for defraying the charges of the war recourſe was had to the diminution of the coin. Then, for ſome time KOPEEKS and ALTINES were ſtruck of copper. By the ſtandard, ariſing from the continuance of the gradual diminution of the worth of the ſmall monies, the value of a rix-dollar at length got up to 1 ruble or 100 kopeeks; and though afterwards the weight of the former was improved, yet the extrinſic value of the ruble remained unaltered at 100 kopeeks. For the greater convenience of change in trade quarter-ruble-pieces of 25 kopeeks were alſo at this time ſtruck. — Peter I. made various alterations in the coinage. He ordered, by an edict of 1724, that no more ſilver kopeeks ſhould be coined; cauſing in their ſtead one and two-kopeek-pieces of copper to be ſtruck, which had on one ſide the St. George, and on the other within the initial of the emperor's name II, the value of the coin. His ſilver rubles, of which the oldeſt are of 1701 and 1704, are diſtinguiſhed by the legend expreſ-

* Von Madai, thaler-kabinet, part. i. n. 49.

ſive

ſive in the ruſſian language of an improved ſtandard: Moneta dobraya jena, rubel: good money, a ruble. Upon this all other mints were aboliſhed, except thoſe at Moſco: in which capital there were two coining houſes; one denèſchnoi for ſilver, and the other monetnoi dvor for copper coins. Afterwards, however, a mint was ſet up in St. Peterſburg; and this is at preſent the only one where gold and ſilver coins are ſtruck. The mint in Moſco indeed ſtill exiſts, but it is confined to the coinage of copper money. Under the empreſs Elizabeth the mint for the COPPER MONEY was in Ekatarinenburg; in the year 1766 another mint for copper was erected in Suſun at the mineral works of Kolhyvan, and in 1783 one of the ſame kind at Theodoſia in Taurida. The late empreſs formed the reſolution to erect a copper-coinage in the environs of Ekatarinenburg on the Iſet (Niſchneiſetſkoi-monetnoi-dvor), and another on the ſtream Babka near the Kamma (Babkinſkoi-monetnoi-dvor). There are therefore at this time in Ruſſia one mint for ſilver and ſix for copper coin. — After the famous battle of Pultava, among the ſwediſh officers who were taken priſoners, were ſome who underſtood the art of coining; the emperor accordingly employed them in his mint. It was in conſequence of this that his impreſs on the coins from that battle till his journey to France, 1709—1718, is ſo much à la ſuedoiſe with the hair combed back, &c. Peter

therefore brought medailleurs with him from France, and from that time appeared what are called the ſun-rubles, now become very ſcarce, having on the reverſe a ſun in the centre, and in the area his initial in ruſs П, juſt as the L was ſtruck on the french louis-d'or. Beſides the ruble, at the ſame time were coined the HALF and the QUARTER RUBLE (Poltiniki and polpoltiniki), alſo with his likeneſs and the imperial eagle. The grieven or the 10th part of a ruble, had ten dots with the inſcription GRIEVENIK on one ſide and the eagle on the other. The altines or 3 kopeeks had on one ſide the eagle, and on the other ſtood with the date of the year, the word ALTINIK.

Theſe were all the ſilver coins under Peter I. in which outwardly no alteration was made, excepting that for a long time no more altines have been ſtruck, and the empreſs Elizabeth for a ſhort time cauſed five-kopeek-pieces to be coined, but this practice has now long ſince ceaſed *. — The GOLD COINS in Ruſſia have always been ſtruck in ſomewhat larger ſorts than thoſe of ſilver. Ducats were coined by tzar Ivan Vaſſillievitch, and half-ducats are found of tzar Feodor Ivanovitch. A ten-ducat-piece is ſhewn of the falſe Demetrius †.

* Schmidt's beytr. zur kenntniſs der ſtaatſverfaſſung von Ruſsland, tom. i. p. 50.

† J. T. Kœhler vollſtandig. dukatenkab. tom. i. n. 112—115.

Moſt

Moſt of the gold coins, however, ſtill ſubſiſting of the antient times, conſiſt of very ſmall ſorts. Nay, there are ſome that are even called GOLDEN KOPEEKS*. A ruſſian ducat was formerly equal to two rubles ſilver, whence probably the denomination golden ruble aroſe, which, as well as the quarter-ruble are now ſhewn as curioſities. — Under Peter I. the gold coins were either two-ruble-pieces, with the apoſtle Andrew on the reverſe, which, however, are very rare; or ducats with latin inſcription. On one ſide is the buſt of Peter with a crown of laurels, on the other the ruſſian imperial eagle, on the breaſt whereof is the St. George. Both ſides have round them, Petrus Alexii I. D. G. Ruſſ. Imp. M. Dux Moſcoviæ 1716. Theſe coins where Peter bears the imperial title, were ſtruck long before the peace of Nyſtadt, The empreſs Elizabeth firſt cauſed IMPERIALS, HALF-IMPERIALS, GOLDEN RUBLES, and HALF-RUBLES, to be ſtruck. — At the acceſſion of Peter I. the COPPER COINS were half-kopeeks (denuſchka or denga), kopeeks, and five-kopeek-pieces. On the firſt, ſtands on one ſide DENGA, and on the other 1706. The kopeeks have on one ſide the St. George, and on the other KOPEIKA. The old ones were called in on account of their deformity, and the kopeeks were now ſtruck with only an extremely little chevalier St. George,

* Joh. Fried. Joachims unterricht vom munzweſen.

and the date 1724 on one ſide, and the word kopeika on the other. Theſe under Peter II. were a great deal ſmaller, and the former called back into the mint. On theſe little ones are ſeen the knight George on one ſide with the exergue Moſkva, and on the other the letter II. placed in a four-fold croſs, having in one interline 1728, in the other kopeika. The five-kopeek-pieces were likewiſe ſubmitted to ſeveral alterations. Thoſe of Peter I. conſiſt of 1¼ lote (4 ſolotniks) copper, and are on one ſide exactly like the old kopeeks, marked with the value and the date in a croſs on one ſide, on the other with a little ruſſian eagle, having five dots round, for the benefit of ſuch as are not acquainted with cyphers. The empreſs Anna, without recoining them, fixed them at 4; Elizabeth gradually reduced them to 3 and to 2 kopeeks. At laſt in 1755 Elizabeth cauſed them to be ſtruck down, with a new die, to 1 kopeek. An eagle repoſing on clouds holding a crowned ſhield between his wings, in which on one ſide ſtood the empreſs's cypher, and on the other 1 kopeika with the date. In the year 1757 theſe very coins got up again to 2 kopeeks, bearing a new impreſs, being on one ſide the knight St. George, on the other the cypher of the empreſs; and thenceforward, with preciſely the ſame die, from the old dengas or half-kopeeks were ſtruck whole kopeeks, from the poluſchkas half-kopeeks, and new poluſchkas with the very ſame impreſs,

which

which were as ſmall and as light again as the former ones of the empreſs Anna. Peter III. ſtruck the ſame coins again at 4 kopeeks, with a new die, having the St. George on one ſide, and pruſſian armorial trophies with the number 4 and the ruſſian explanation of it on the other. Theſe were afterwards again depreciated to 2 kopeeks. The copper five-kopeek-pieces that had been ſtruck by Elizabeth were fixed by Peter III. at 10, but Catharine II. reduced them again to 5 kopeeks. For the accommodation of the provinces of Eſthonia and Livonia, the empreſs Elizabeth in 1757, cauſed to be ſtruck the livoneſes of whole, half, and quarter pieces. A whole piece was in value 96 kopeeks. The coinage of theſe preſently ceaſed; and, as the whole livoneſes were of more intrinſic value than the ſubſequent rubles, they were almoſt all re-melted into rubles*. The coins now in circulation are:

GOLD.

	Rubles.	Kop.
Imperials	10	0
Half-imperials	5	0
Ducats, ſcarce	2	30
Andrew-ducats, ſcarce	2	0
Two-ruble-pieces	2	0
Golden rubles	1	0
Half rubles	0	50
Quarter-rubles, very rare	0	25

* Schmidt's beytr. zur kenntn. der ſtaatſverf. von Ruſsl. p. 50.

SILVER.

SILVER.

	Rubles.	Kop.
Ruble	0	100
Half-ruble	0	50
Quarter-ruble	0	25
Twenty-kopeek-pieces	0	20
Fifteen-kopeek-pieces	0	15
Grievniks	0	10
Five-kopeek-pieces	0	5
Altines, ſeldom to be ſeen	0	3

COPPER.

Grievnik	0	10
Pataki, the moſt common	0	5
Groſch	0	2
Kopeek	0	1
Denuſchka	0	$0\frac{1}{2}$
Poluſchka	0	$0\frac{1}{4}$

Theſe coins ſtand in the following relational value:

Ruble,	Grievnik,	Altine,	Kopeeks,	Denuſchka,	Poluſchka.
1	10	$33\frac{1}{3}$	100	200	400
	1	$3\frac{1}{3}$	10	20	40
		1	3	6	12
			1	2	4
				1	2

As to the intrinſic value of the ruſſian coins, concerning the ſtandard of the former ducats, nothing more is known than that 67 of thoſe of 1712 to 1729 contained 23 karats 4 grains of fine

gold *. Among the merchants 117¼ are equal in weight to a ruſſian pound, and they were rated at 94 ſolotniks aſſize †. — By the new aſſay obſerved under the empreſs Elizabeth, a pound of ducat-gold held 93 ſolotniks fine gold, and 3 ſolotniks alloy of copper, and out of this 118 pieces were coined. In a pound of gold for Andrew-ducats were only 75 ſolotniks of fine gold, and 21 ſolotniks copper, and out of this 100 pieces were ſtruck. The pound of ſilver for rubles, halves, and quarters, conſiſted of 84 kopeeks. The pound of ſilver for grievniks held 72 ſolotniks fine ſilver and 24 ſolotniks copper, from which likewiſe 15 rubles 84 kopeeks were ſtruck. In demuſchkas and poluſchkas from a pood of copper 10 rubles were coined ‡. — An imperial under the empreſs Elizabeth weighed $3\frac{8}{96}$ ſolotniks, and a half imperial $1\frac{88}{96}$ ſolotniks, and the pound of gold to this purpoſe muſt be 88 ſolotniks fine §. The proportion between gold and ſilver was at that time as $1=13\frac{5}{19}$. In purſuance of the edict of the 18th of December 1763, this proportion was however fixed at 1=15. A ſolotnik of fine gold had hitherto been coined into 2 rubles $80\frac{65}{142}$ kopeeks, but from that time forwards into 3 rubles $55\frac{5}{9}$ kopeeks.

* Hirſch, in des deutſchen reichs munzarchiv, tom. vi. p. 242.

† Kruſe, Contoriſt, p. 269.

‡ Tozen, ſtaatſkunde, tom. ii. p. 966.

§ Ukaſe of 23d November 1755.

The

The ſolotnik of fine ſilver was till 1762 coined to 20$\frac{5}{7}$ kopeeks, but at preſent to 23$\frac{5}{17}$ kopeeks. — Conformably to the ſaid ukaſe, the imperials and half imperials muſt be coined according to the 88th aſſay, and from each pound of gold of this allay 31 imperials and 2 rubles 88$\frac{8}{9}$ kopeeks muſt be coined, (which renders every imperial 3$\frac{1}{4}$ ſolotniks in weight,) but of half-imperials 6$\frac{1}{2}$ and 2 rubles 88$\frac{8}{9}$ kopeeks each weighing 1$\frac{7}{8}$ ſolotniks. The large ſilver coins are coined after the 72d aſſay, that is, a pound muſt contain 72 ſolotniks fine ſilver, and every pound muſt produce in rubles and half-rubles for 17 rubles 6$\frac{2}{3}$ kopeeks, in quarter-rubles and double grievniks for 17 rubles 15$\frac{10}{48}$, and in five-altines and grievniks for 17 rubles 25$\frac{10}{98}$ kopeeks fine ſilver*. A ruble according to this ſtandard is worth about 23 groſches 7 pfennigs in two-third-pieces by the leipzig ſtandard. But the merchants make a conſiderable diſtinction between old and new imperials and rubles.

* The fineneſs of the ruſſian imperial is of 22 karats, and that of the ſilver 12 lotes. A pound or 92 ſolotniks of fine ſilver is worth 22 rubles 75$\frac{15}{17}$ kopeeks; a pound of coined ſilver 17 ruble 6$\frac{2}{3}$ kopeeks; the difference therefore is 569 kopeeks, or the fine ſilver is to the coined as 10=7$\frac{11}{12}\frac{3}{17}\frac{5}{8}$. A pound of fine gold is worth 341 rubles 33$\frac{1}{3}$ kopeeks; but the coined 312 rubles 88$\frac{8}{9}$ kopeeks; the difference is therefore 28 rubles 44$\frac{4}{9}$ kopeeks, or as 10=9$\frac{56}{41}\frac{8}{33}\frac{3}{3}$. — Nine and a half rubles make a mark of Cologne. The new ruble is at Hamburg 2 marks 10 ſchilling banko, and an imperial 24 mark 9$\frac{1}{2}$ ſchilling in banko.

Old

Old imperials, 10 rubles extrinſic value, are rated by the german ſtandard at 11 dollars 16 groſches, whereas the new at only 9 dollars 18 groſches. And in like proportion alſo old rubles at 1 dollar 3 groſches, but new ones diverſely at 23 groſches, or 1 dollar, or even 1 dollar 1 groſch *. The ſmall ſorts of coin are according to the convention-ſtandard, the louis-d'or at 5 dollars, of the year 1774, calculated in the following manner: Grievnik at 2 groſches 8 pfennig; altine 9¾ pfennig; kopeek 9¾ pfennig; denuſchka ⅝ pfennig; moſcofca 1⅝ pfennig; piatkopeek (piatak) 1 groſch 4 pfennig, and polupoltinik (quarter-ruble) 6 groſches 9 pfennig.

Concerning the value of the moſt antient copper coins nothing is ſatisfactorily known †. Under the regency of the princeſs Anna five-kopeek-pieces extrinſic value were ſtruck, which in intrinſic were ſcarcely worth 2 kopeeks. The poliſh

* This diſtinction between old and new rubles appears likewiſe hence, that an alberts-dollar in 1714 was only worth 80 kopeeks, but now 125 to 130 kopeeks. This however depends much on the courſe of exchange. — A ſilver ruble of the laſt reign contained almoſt 375 *as* dutch, and is therefore nearly worth 37½ ſtuyvers. Before the late war the courſe of exchange at Peterſburg was 40 ſtuyvers and upwards; in 1789 it was down to 30, afterwards even at 28½ ſtuyvers, and lately 22½ pence engliſh. — Between 1758 and 1768 it was from 38¼ to 45¾ ſtuyvers.

† Under Peter I. from 40 pound of copper were ſtruck 20 rubles. Weber, p. 52.

jews

jews took advantage of this by introducing a prodigious quantity of ſtill baſer counterfeits into Ruſſia, ſaid to have amounted to upwards of a million of rubles. On this account it was that under the empreſs Elizabeth the aforementioned alteration in the copper coinage took place. But never were matters in ſo bad a ſtate as under Peter III. He ſtruck 20, 15, and 10 kopeek pieces, which intrinſically had not a third part of that value. On the acceſſion of Catharine II. theſe were unconditionally recalled.

At preſent all the ruſſian copper-money, velikoroſſiſkaia moneta, is coined the pood at 16 rubles, in ſorts of five, two, one, half, and quarter kopeeks*. But at the copper-mint at Suſun, by ukaſe, 15 Dec. 1763, grievniks, five-kopeek-pieces, groſches, kopeeks, denuſchkas, and poluſchkas, are coined by a different proportion. As each pood of copper there contains $1\frac{1}{16}$ ſolotniks of fine gold, and $31\frac{3}{16}$ ſolotniks of fine ſilver, it is ordered, that this ſhall be coined to 25 rubles, adding, that in order to diſtinguiſh this money from others, it muſt bear the ſiberian arms with the characteriſtic inſcription Sibirſkaia moneta, but to be current only in Siberia †. This, however, was in force only till 1781; for ſince that

* A ruble copper-money is, by the price of foreign copper, worth in Holland about 20 ſtuyvers.

† See baron von Praun, Grundliche nachricht vom muntzweſen, 1784, p. 407.

time,

time, the gold and ſilver being extracted from the copper to a very little, it is likewiſe coined at 16 rubles with the cuſtomary ruſſian impreſs, and is current in Ruſſia as well as in Siberia*.

Beſides the hard coin, PAPER-MONEY is alſo current in the ruſſian empire under the name of bank-aſſignations. Till the year 1787 theſe notes of 100, of 50, and of 25 rubles in circulation, were eſtimated at the amount of 50 millions of rubles. Theſe were ſo readily taken throughout the empire inſtead of copper-money, that in many parts of the country one, two, as far as five per cent. agio muſt be given to get paper-money for

* Of the ſiberian copper-coins containing gold and ſilver, from the beginning to 1781, were ſtruck in all 3,799,661 rubles 93½ kopeeks, wherein were 14 pood 17 pound 19 ſolotniks, gold, in value 197,016 rubles 88¾ kopeeks, and 1228 pood 8 pound 42 ſolotniks ſilver, in value 1,117,944 rubles 89 kopeeks, together 2,484,700 rubles 15¾ kopeeks, gold and ſilver. A queſtion aroſe how high the expence would riſe, if theſe coins were interchanged, in order to get out the two noble metals; and it was calculated, that after deducting the waſte by fire, there might be obtained 7 pood 8 pound 57½ ſolotniks of gold to 98,508 rubles 44 kopeeks, and 1149 pood 2 pound 5 ſolotniks ſilver to 1,115,892 rubles 2¾ kopeeks, together 1,214,400 rubles 46¾ kopeeks, and that the coſt of extracting, with the loſs of metal, would amount to 547,034 rubles 95 kopeeks. At the expence therefore of about half a million copper or paper money above 1,200,000 rubles gold and ſilver would be gained; ſurely it would be well worth while to undertake this operation.

copper.

copper. In that year 1787 the old ones were liquidated, and a freſh iſſue was made of bank-notes to the amount of 100 millions *. At preſent they are of 100, of 50, of 25, of 10 and 5 rubles. The firſt three are of white, the ten-ruble notes of red, and the five-ruble notes of blue paper. Of the two laſt ſorts the 10th part of the whole ſum of 100 millions, namely 10 millions, were iſſued. By an ukaſe of the 3d of Auguſt 1788, ten and five ruble notes were again made to the amount of 10 millions, at the ſame time commanding, that the like ſum in hundred-ruble-notes ſhould be extinguiſhed, that there might be never more than the ſtated 100 millions in circulation. All theſe papers are immediately converted into copper-money on demand at the aſſignations-banks. Theſe banks are at St. Peterſburg, Moſco, Yaroſlaf, Smolenſk, Veliki-uſtiug, Aſtrakhan, Niſhnei-Novgorod, Viſchnèvolotſchok, Novgorod, Pſcove, Tver, Neſchna, Kief, Kurſk, Kharkof,

* Of theſe the new imperial loan-bank or lombard received to the ſum of 36 millions, viz. 22 millions for the nobility, 11 millions for the towns, and 3 millions for Taurida alone. — The aſſignations-bank was opened in 1769, and is diſtinct from the new loan-bank. — Mayer ſtates the fixed ſum of the bank-notes firſt put into circulation at 60 millions of rubles; but I know for certain that this ſtatement is conſiderably too high. Abbé Raynal comes ſomewhat nearer the truth who ſets it down at about 50,000,000, with whom Mr. Coxe and M. le Clerc agree. Hermann's ſtatiſtiſche ſchilderung von Rufsland, p. 474.

Tambof,

Tambof, Orel, Tula, Kazan, Kherſon, Archangel, Riga, and Reval. Thoſe in Tobolſk and Irkutſk have been lately aboliſhed.

The auriferous ſilver produced at the ſiberian mines is ſeparated at St. Peterſburg in the laboratory conſtructed for that purpoſe in the fortreſs there. From the kolhyvanian mines come annunually, as before-mentioned, about 800 to 1000, and from the nertſchinſkian about 400 to 500, of both together about 1300 to 1400 pood. The former contains 3 or $3\frac{1}{2}$ to 4 per cent. but the latter only $1\frac{1}{4}$ to $1\frac{1}{2}$ per cent. gold. — The gold and ſilver here ſeparated are delivered into the peterſburg mint, which is likewiſe in the fortreſs; and there, together with the gold from Ekatarinenburg and the german dollars brought in through the cuſtom-houſe, are ſtruck into the ſeveral ſorts of ruſſian coins.

It is calculated that at preſent there is in circulation in the ruſſian empire at leaſt 130 millions in hard caſh; and, if to this we add the hundred million in bank-notes, the whole circulating maſs of money amounts to about 230 millions of rubles.

Concerning the ruſſian weights and meaſures it is to be obſerved, that

A berkovetch contains 10 pood.
A pood 40 pounds.
A pound 96 ſolotniks.
A ſolotnik 96 parts.
Three ſolotniks are one lote.

A cool (ſack) of coarſe meal ſhould weigh 9 pood 12 pound.

A cool of rye 8, or 9, or 10 pood.

A cool contains 10 chetveriks.

Fifteen chetveriks make about a dutch laſt.

A chetvert contains 2 oſmin.

An oſmin 2 payoks.

A payok 2 chetveriks.

The chetverik, which is the 8th part of the chetvert, contains 2 polchetveriks, which are in diameter 12 french inches 6 lines, and in depth 11 inches 9 lines.

The polchetverik is 10 inches 9 lines in diameter, and 7 inches 6 lines in depth. It is 2 chetverks or quarters.

The chetverk or quarter, contains 2 garnitzas of 8 inches 6 lines in diameter, and 4 inches 6 lines in depth.

The polgarnitza has 5 inches 8 lines in diameter, and 3 inches 4 lines in depth.

A caſk of brandy, linſeed oil, or hemp oil, called ſorokovaia-botſchka, contains 40 vedros or $13\frac{1}{3}$ ankers, which make $533\frac{1}{3}$ pariſian pints.

The anker holds 3 vedros, each containing 40 pints.

The vedro has 4 chetverki or quarters, or $13\frac{1}{3}$ pints.

The chetverka holds 2 oſmuki, which are alſo called kruſhki, each holding $3\frac{1}{3}$ pints.

Long meaſure: A deſættine has 3200 ſquare ſajénes. That is, a deſættine is 80 ſajénes long and 40 broad.

A ſajéne is 3 arſhines.

An arſhine is 16 verſhoks, or 28 engliſh inches.

A verſt is 500 ſajénes or 1200 paces. Twenty verſts make 3 german miles.

A deſættine is 210 rheniſh feet broad and 560 feet long, being 117,600 ſquare feet.

All theſe weights and meaſures are alike throughout Ruſſia, excepting Livonia and Finland.

But in Riga the following is the weight: A laſt contains 12 ſhip-pound; a ſhip pound 4 lofe; a lofe 5 lieſpound; a lieſpound 20 common pounds. Forty-five pounds in Riga

are

are 46 pounds in Ruſſia. A laſt of rye contains 22½ tons; a laſt of wheat or barley 24 tons; a laſt of malt, peaſe, or oats 30 tons; a laſt of linſeed or potaſhes 12 tons. A ton contains 12 lofes; a lofe 6 kulmits; a kulmit 4½ kans; a kan 2 ſtofes. A fuder contains 6 ohms; an ohm 4 ankers; an anker 5 quarts; a quart 6 ſtofes. A ruſſian vedro holds 10 ſtofes. Thirteen ells in Riga make 10 arſhines in Ruſſia. In Riga a laſt of rye holds 45, and in Pernau 48 lofes. A laſt in Reval holds 24 tons, or 72 lofes, and 44 Riga lofes amount to one laſt of Reval. The laſt of Riga and of Hamburgh agree nearly together.

Compariſon of ruſſian and foreign long-meaſure.

If we divide a verſhok or the 16th part of an arſhine into a hundred equal parts, ſo that

A verſhok contains 100 ſuch parts,
An arſhine 1600, and
A ſajéne 4800, then

	Verſh.	Parts.
I. The foot of Paris will contain	7	31
London	6	86
Rheniſh	7	6
Denmark	7	12
Sweden	6	69
Amſterdam	6	38
Leyden	7	6
Bruſſels	6	19
Dantzig	6	45
Augſburg	6	66
Brunſwick	6	39
Bavaria	6	56
Cologne	6	19
Gotha	6	47
Gœttingen	6	70

	Verſh.	Parts.
Halle	6	72
Leipzig	7	9
Nurenburg	6	83
Prague	6	79
Straſburg	6	51
Vienna	7	11
Zurich	6	80
Geneva	10	98
Lyons	7	67
Liſbon	7	4
Bologna	8	53
Turin	11	54
Milan	8	93
Rome	6	62
Venice	7	82
Conſtantinople	15	94
II. The palma of Rome	5	2
The krama there	5	59
Naples	5	93
Genoa	5	64
III. The french toiſe	43	84
IV. The engliſh yard	20	57
V. The engliſh fathom	41	15
VI. The caſtilian varre	18	83
VII. The portugueze cavidos	14	53
VIII. The portugueze barros	25	45
IX. The braccia of Florence	12	33
Bologna	13	49
Milan	10	99
X. The ell of Paris in ſilk	26	72
——— in cloth	26	71
——— in linen	26	59
Amſterdam	15	52
Berlin	15	0
Brabant	15	53
Breſlau	12	37

Bruſſels,

	Verſh.	Parts.
Bruſſels, large	15	62
——— ſmall	15	40
Copenhagen	14	12
Dantzig	12	91
Dreſden	12	73
Frankfort on the Mayne	12	14
Geneva	25	73
Hamburg	12	89
Leipzig	12	72
Louvaine	26	41
Nurenburg	14	84
Straſburg	11	48
Vienna	17	48

Therefore 100 Paris ells in ſilk make 167 arſhines

16 Berlin	15
100 Amſterdam	97
400 Vienna	437
200 Leipzig, &c.	159

Compariſon of various Miles.

A ruſſian verſt containing 500 ſajénes, and each ſajéne 7 foot of London, though here divided into 3 arſhines, the ſeveral miles are accordingly thus divided into verſts, ſajénes, and arſhines;

	Verſts.	Sajénes.	Arſhines.
German mile	6	475	$1\frac{1}{4}$
French league	4	84	$0\frac{3}{5}$
Engliſh mile *	1	368	$2\frac{1}{2}$
Italian mile	1	368	$2\frac{1}{2}$
Spaniſh mile	5	396	$0\frac{1}{2}$
Swediſh mile, or 36,000 ſwediſh feet	10	17	0

* Sixty engliſh miles are equal to one degree of latitude.
One hundred and four ruſſian verſts are equal to one degree of latitude.

Five french leagues make 3 german miles; 4 engliſh ſea miles or italian miles amount to but 1 german mile; ſix ſpaniſh miles are equal to 5 german miles, and juſt ſo many make 16 engliſh land miles. Laſtly, as 15 german miles compoſe a degree of the æquator; ſo to ſuch a degree 104 verſts, 131 ſajénes, 1 arſhine, $7\frac{1}{10}$ verſhoks are requiſite. But 20 french leagues, 60 engliſh miles; likewiſe 60 italian miles, and 18 ſpaniſh miles are reckoned to a degree.

Compariſon of various foreign Weights with the Ruſſian.

A pound at	by ruſſian weight. Pounds.	Solot.	Hun. parts.
Aix-la-chapelle	1	33	44
Amſterdam	1	19	33
Antwerp	1	13	44
Augſburg, great weight	1	18	79
—— —— ſmall	1	14	37
Baſil	1	13	52
Berlin	1	13	26
Bologna	0	84	56
Brunſwick	1	13	30
Bremen	1	19	66
Breſlau	0	94	62
Bruſſels	1	13	44
Bourdeaux	1	18	75
Cadiz	1	11	31
Cologne	1	13	30
Conſtantinople	3	9	94
Copenhagen	1	13	52
Cracow	0	94	52
Dantzig	1	5	66
Florence	0	79	24
Frankfort on the Mayne	1	13	70
Geneva	1	32	80
Genoa	0	73	90

Gotha

	Pounds.	Solot.	Hun. Parts.
Gotha	1	22	2
Hamburgh	1	17	28
Kœnigſburg, old weight	0	88	77
——— new weight	1	13	23
Leipzig	1	13	66
Lyons	1	1	71
Liſbon	1	11	20
Leghorn	0	79	55
London	1	9	51
Lubek	1	16	83
Lunenburg	1	17	55
Magdeburg	1	13	23
Marſeilles	1	0	55
Memmingen	1	23	54
Munich	1	34	92
Naples	1	3	13
Nurenberg	1	23	49
Paris	1	18	47
Prague	1	23	92
Ratiſbon	1	34	92
Rome	0	79	22
Saltzburg	1	34	72
Schaafhauſen	1	11	95
Straſburg	1	14	73
Stuttgard	1	15	70
Venice, great weight	1	15	36
——— ſmall	1	8	45
Ulm	1	13	44
Warſaw	0	88	22
Vienna	1	35	17
Zittau	1	13	23
Zurich	1	27	39

*** For ordinary purpoſes the ruble may be eſtimated at 4*s.* during the greater part of the

reign of the late empreſs—ſuch readers as deſire a nearer ſpecification of its value will ſatisfy themſelves on its fluctuations from the tables, p. 487, 502. the note on p. 557, &c.

LANGUAGES are indeed properly no object of political œconomy; perhaps, however, the reader will indulge me in a word or two on the Ruſs, before we conclude. Its beauties, the copiouſneſs and energy of its expreſſions, &c. are acknowledged and celebrated by ſeveral philologiſts and literary men. Mr. Schlœtzer, whoſe judgment in ſuch matters will not be queſtioned, gives it the preference to almoſt all the european languages. It has been much cultivated of late years; ſeveral grammars and dictionaries have been made; numerous tranſlations into it are conſtantly appearing, and the Ruſſian Academy is indefatigable in the reſtoration of its purity. — A foreigner, with his utmoſt efforts, can ſeldom attain to a pronunciation tolerable to the ears of a native; much leſs if he have only books for his guides: innumerable peculiarities and anomalies render it ſo extremely difficult. The ruſsian grammarians themſelves are not agreed even concerning the number of letters contained in the alphabet. The Elements

of

of the ruſſian language, publiſhed ſome years ſince in 48 pages 4to. make the number of letters 41; Charpentier, in his Elemens de la Langue Ruſſe, knows of no more than 31; while Rodde, with greater propriety, fixes the number at 38. Some of them the foreigner rarely learns to pronounce properly, particularly the three diſtinct ſibilating ſounds, the ſelo, the ſemlia, and the ſlavo; the two very different ſchas, the jevetè, and the tſchtſcha; the two mute letters, yerr and yer; but eſpecially the yeri, or more properly yery, which is ſounded neither entirely like u, ui, ue, or e, but requires ſomewhat of an intermediate ſound between them. Not to mention the numerous irregularities of the declenſions and the peculiarities of the ſyntax; the accent alone, which frequently bounds backwards and forwards from the ſyllables, throws the learner into great perplexities. Thus, ruka, the hand, has the accent on the laſt; but in the plural number, ruki, the hands, on the firſt ſyllable. Yet theſe perplexities are nothing in compariſon of what he meets with in conjugating, as almoſt every verb has ſo many peculiarities that it may be called irregular. Scarcely one can be found that has all the 10 tenſes, namely, the preſent, the imperfect, the preterit of unity, the preterperfect, the 3 preterpluperfects, (viz. the firſt, ſecond, and third, each of which includes in it a particular collateral idea), the future imperfect, and the future ſimple or perfect. It is the ſame with the threefold

threefold infinitive, the threefold imperative, (namely, of the preſent, of the future imperfect, and of the future ſimple,) the threefold participle, (viz. of the preſent, of the imperfect, and of the perfect,) and the threefold gerund. Add to this, that hitherto no general and certain rules have been laid down for forming theſe tenſes. Thus, for inſtance, the præteritum perfectum is frequently diſtinguiſhed from the imperfectum, not merely by prefixing a ſingle letter or more, as s, vs, u, o, ob, pro, po, is, ſa, ſo, ras, vos, na, vſo; but it is ſolely determined by practice, which of theſe is to be added to every verb. Yet the matter is rendered ſtill more intricate, as it is only with very few verbs that it is poſſible to gueſs from any one tenſe how the preſent or the infinitive is made; and the two latter often differ ſo widely from one another, in ſuch complete irregularity, that the preſent in the firſt perſon has ſcarcely any ſimilarity with the ſecond. One example will illuſtrate what is here meant: from brüſchu, I ſprinkle, the infinitive is brüſgat and brüſnut; from volnuyu, I make waves, volnovat; from grebu, I row, greſti; from dremlu, I ſlumber, dremat; from jivu, I live, jit; from zabivayu, I forget, zabüt; from iſchtſchu, I ſeek, iſkat. All theſe are of the firſt conjugation. Of the ſecond I ſhall only mention; lublu, or properly liublu, I love; liubiſch, thou loveſt; polyubil, I have loved; the infinitive is liubit and polyubit: from platſchu, I pay; platiſch,

thou payeſt; zaplatil, I have paid; the infinitive is platit, &c. Amidſt all theſe difficulties that a foreigner has to ſtruggle with ere he can make himſelf but a tolerable proficient in the ruſſian language, no grammars have as yet been made for him except by foreigners: no wonder that their productions are not more complete.

As a ſpecimen of the ruſſian character, I am enabled by the kindneſs of Mr. Fry, of Type-ſtreet, to preſent the reader with the Alphabet and Paternoſter from the types of that ingenious artiſt.

THE

THE RUSSIAN ALPHABET.

А а	As	a	С с	Slovo	s
Б б	Buky	b	Т т	Tverdo	t
В в	Vedy	v	У у [c]	U	u
Г г [a]	Glagol	g & h	Ф ф	Ferte	ph
Д д	Dobro	d	Х х [d]	Khiére	ch
Е е	Yeſt	e	Ц ц	Tſi	tz
Ж ж [b]	Givété	j	Ч ч	Cherf	ch
Ѕ ѕ	Zélo	z	Ш ш [e]	Sha	ſh
З з	Zemlia	z	Щ щ [f]	Schtſcha	ſch
И и	Ije	i	Ъ ъ [g]	Yerr	
І ї	I	ï	Ы ы [h]	Yerrih	i
К к	Kako	k	Ь ь [g]	Yere	
Л л	Liudi	l	Ѣ ѣ	Yati	
М м	Muiſliété	m	Э э	Yé	é
Н н	Naſhe	n	Ю ю	Yu	yu
О о	One	o	Я я	Ya	ya
П п	Pokoï	p	Ѳ ѳ [i]	Phita	th
Р р	Rtſi	r	Ѵ ѵ	Ijitza	y

NOTES ON THE FOREGOING PAGE.

[a] Is ſounded as g and as h.

[b] Is ſounded as the french j, in jour.

[c] Is ſounded as french ou.

[d] Is ſounded as ſcotch ch, in loch.

[e] Is ſounded as engliſh ſh.

[f] Is ſounded as engliſh ſch.

[g] Theſe letters are named *yerr* and *yere*; they are both mute letters, and ſerve only to point out a full or open, and a ſoft termination of a word; for example, the word doll muſt be ſpelt with ruſſian characters, ΔOΛЬ, and the word gravel thus ГРАВЕΛЬ.

[h] Is named *yerrib*, and is ſounded as the engliſh ſhort or full i, in thick.

[i] Is ſounded both as engliſh th, and as f.

[k] Is named ijitza, and is ſounded as y in ſymphony.

THE

THE RUSSIAN PATERNOSTER.

Отче нашъ, иже еси на небесѣхъ, да свѧтится имя твое, да прїидетъ царствїе твое, да будетъ воля твоя, яко на небеси и на земли. Хлѣбъ нашъ насущнъїи даждь намъ днесь. И остави намъ долги наша, якоже и мы оставляемъ должникомъ нашим. И не введи насъ во искушенїе, но избави насъ отъ лукаваго. Яко твое есть царство и сила и слава во вѣки вѣковъ. Амин[b].

INDEX.

A

ABULGASI, the tartar hiſtorian, i. 442.
Ablution, ſeveral times a day, commanded by the koran, ii. 85.
Abſolute government, the proper aim of, ii. 221.
Achtuba, ſtate of the ſilk culture on the, iii. 281.
Aconite, highly reputed for it's medicinal virtues, ii. 7.
Acquiſitions to the empire made by Catharine II. i. 282.
Admirals, rank and pay of, ii. 271.
Admiralty at St. Peterſburg, ii. 270. 351.
Advocates, livonian, ii. 380.
Age, advanced, frequently attained in Ruſſia, i. 23. Univerſally honoured, ii. 53.
Aged people, ſmall number of, i. 544.
Agents, abroad, ii. 349.
Agriculture, nations addicted to, i. 509. Not the ſole buſineſs of the peaſantry, ii. 25. Neglected for the fiſhery, iii. 58, 129. Ruſſian, 132. None practicable beyond the 60th deg. n. lat. 133. Manner of carrying it on, 138. Nowhere conducted with ſo much negligence, 151. Purſued by Ruſſians and Finns, 154. The ſame in all the northern provinces, 161. Siberian, 163. When it may be ſaid to flouriſh, 194.
Air, ſudden changes of, i. 55. Salubrious, 58. Temperature of, in the iſle of Œſel, 179.
Akdinghis, the Caſpian ſo named by the Tartars, i. 195.
Alaborg, in the government of Olonetz, i. 269.
Alaiſkian mountains, i. 127.
Alanes, or Dagheſtanians, conquered by Tſchinghis, i. 412.—Exterminate the Taurians from the Krim, i. 453.
Albanians, Moldavians, Valakhians, and Arnauts, i. 506.
Albrecht of Apelderen, comes into Livonia as an armed apoſtle, i. 388.
Aldenburg, now Old-Ladoga, i. 269.
Aleppo, the Mongoles come to, i. 416.
Aleutan iſlands, connect Kamtſhatka with North-America, i. 144. 160.
Aleutans, i. 503.
Alexander, grand prince of Novgorod, obtains the ſurname of Nefsky, from a victory over the Swedes on the banks of the Neva, i. 276.
Alexander Nefsky, St. order of, ii. 232.
Alexander the Great, aſtoniſhed at the magnificence of the perſian baths, ii. 9.
Alla-Koola, the chequered mountains, i. 121.
Allegiance, oath of, taken by all claſſes of ſubjects, ii. 172.

Allowance, annual, of the grand duke, ii. 227.
Almanac, annually printed, for the Ethiopians and Lettiſh, i. 181.
Almond-tree, in the ſouthernmoſt provinces, iii. 232.
Alobrand, a zealous, active, and prudent teacher, i. 393.
Alphabet, ruſſian, has forty-one letters, ii. 16. iii. 576.
Altars, pagan, ſtill remaining in Livonia, i. 374.
Altay, produce of the mines of, ii. 312.
Altay, mountains, ſituation of the, i. 118. Warm ſprings in the, 245.
Altines, of copper, ſtruck, iii. 548.
Altyn-noor, lake, ſurrounded by the Altay mountains, i. 209.
Alum-manufactory, iii. 363.
America, ruſſian poſſeſſions in, i. 4. 283.
Amethyſts, agates, &c. ii. 313.
Amoor, river, belongs entirely to China, i. 230.
Amuſements at court, ii. 230.
Anadyr, the ſea of, i. 154.
Anadyr, river, riſes in the Yablonoi-Krebet, i. 228.
Anakutan, one of the Kurilly iſlands, i. 161.
Anchor-forges, iii. 422.
Anchovies, a ſubſtitute for, iii. 74.
Andreanofskie-oſtrova, or iſlands of St. Andrew, i. 144.
Andrew, St. order of, ii. 232.
Angara, river, when it freezes, i. 57.
Angling, a ſufficient quantity of fiſh might be caught by, iii. 84.
Angora, goat of, a native of Natolia, iii. 107.
Animals, ſurpriſing, in Siberia, i. 26. On Behring's iſland, 157. On the Aleutan iſles, 173. On the iſland of Hochland, 189.
Aniſe and cummin, exported, iii. 189.
Anna, empreſs, council takes part in the election of, ii. 165. Propoſes articles to, 184.
Anne, order of St. grand-duke maſter of, ii. 227. 233.
Antelopes, found about the Don, ii. 460.
Antients, the bath much uſed among the, ii. 7.
Antiquities, in the academy of ſciences, i. 448.
Appeals to the ſovereign, ſhould be difficult, ii. 345.
Apples and pears, grow wild as far as 49 deg. n. lat. iii. 228. The kireſkoi apple ſometimes weighs four pounds, 229. Importation of, in 1794, 230.
Apricots and peaches, in Taurida and Caucaſus, iii. 231.
Apulia taken from the Greeks, i. 268.
Aquafortis and aquaregia, iii. 361.
Aquitaine infeſted by the Varags, i. 268.
Arabians, formerly prevailed from Malacca to Liſbon, i. 264.
Arable land, i. 63.
Arabs and Perſians, a colony of, i. 506.
Arabians, i. 479.
Ar-Amakutan, one of the Kurilly iſlands, i. 161.
Araſchan, warm ſprings on the, i. 245.
Arbooſes, or water-melons, ii. 32.
Archangel, ſea-ſalt obtained near, i. 81. 153. A channel of commerce opened at, 278. Fine breed of cattle at, ii. 34. Ships built of larch-timber at, 277. Dock-yards at, 281. A

Ship

Ship goes annually to winter at Spitſbergen, from, iii. 6. Graziery carried on with great ſucceſs in, 89. A good kind of poney found in the diſtricts of, 109. Origin of the port of, 432. Commerce of, 433.
Archeanaktides, founded a monarchy in Boſphorus, i. 453.
Archipelago, veſſels of war in the, ii. 269.
Architecture, proper ruſſian, ii. 40.
Archives, of the empire, kept by the ſenate, ii. 346.
Arendator, what that office implies, ii. 288.
Areſkine, Dr. in favour with Peter the Great, i. 557.
Argali, or wild ſheep, ii. 462.
Argillaceous earths, iii. 319.
Ariſtotle of Bologna, a cannon founder, iii. 425. Maſter of the mint, 545.
Armenia, Oktay-khan, makes an incurſion upon, i. 416.
Armenians, numerous, i. 506.
Armorial-enſigns, ii. 228.
Army, received an augmentation, ii. 239. Created by Peter, i. 258. Regulations in the, 260. Eſtabliſhment, expence of, 330.
Arnauts, ſettled at Kherſon, ii. 247.
Arſenical calx, found in the mineral mountains, iii. 318.
Artemiſſia, moxa of, ii. 7.
Artichokes and other vegetables, iii. 224.
Artillery, regiments of, ii. 249.
Aſh and willow, in almoſt all parts, iii. 255.
Aſparagus, much cultivated, iii. 224.
Aſs, not very common in Ruſſia, iii. 115.
Aſtrakhan, taken by tzar Ivan Vaſſillievitch, i. 3. Heat and rain at, 29. Becomes a ruſſian province, 278. Tartars of, 451. Made tributary, ii. 15. The fiſhery on the Volga at, iii. 62. Utſchiugs granted to the merchants of, 63. The vine planted at, by an auſtrian Monk, iii. 234. Submits to Ruſſia, 421.
Aſtrakhanſkoi Kozaks, i. 298.
Ataman, of like import with hetman, i. 291. His functions at beginning the fiſhery on the Ural, iii. 68.
Attila ſpread terror in his train, i. 259.
Avari abſorbed by the Bulgarians, i. 266.
Avatſha, or Petropavloſſky, i. 174.
Aurora borealis, frequent, i. 54. Never obſerved in Behring's iſland, i. 157. Novaya Zemlia, iii. 5.
Authority, legiſlative, the monarch alone, ii. 210.
Autocrator, that title firſt uſed, i. 9. And autocratrix, ii. 178.
Azof, the ſea of, length and breadth of, i. 176. City of, obtained by Ruſſia, 280. Fiſhery on, iii. 72. Surrendered by the treaty of Pruth, 450.
Azofſkoi Kozaks, i. 285.

B.

Baaty, khan of the Golden horde, ii. 14.
Babes, bring the plica polonica with them into the world, ii. 74.
Bacon, lord chancellor, obſervation on baths by, ii. 12.
Baidars, or little canoes, uſed in ſearching for ſleeping whales, iii. 24. By the Kurils, 38.
Baikal, lake, earthquakes at the, i. 59. Mountains of the, 136. Deſcription of the, 203. Warm ſprings in the, 245. Naphtha ſources on the, 250. Fiſhery on the, iii. 75.
Baker, every ſoldier his own, ii. 290.
Baku, a ruſſian conſul reſides at, iii. 443.
Balalaika, a muſical inſtrument, ii. 60.
Ballads, among the Livonians and Eſthonians, i. 362.
Baltic, provinces on the, captured from the Swedes, i. 3. Sufficiently refute a miſtake of Buſching, 21. Anciently called Variatzkoie morè, the ſea of the Varagians, 177. Water of, continually decreaſing, 178. Baltic-port, the ſame with Rogervyk, 195. Northmanni, from the, 268. Provinces of, permitted to import ſalt, ii. 214. Re-conquered by Peter I. 279. Fiſhery on the coaſts of the, iii. 73. Commerce, by the, 431. Exports and imports of, 436. 475.
Bank, imperial-aſſignation, ii. 316. iii. 302. notes, 560.
Baptiſm, waſhed away in the Dvina, i. 387. Summary form of, 397.
Baptized, many of the, relapſe, i. 382.
Baraba, that large moor deſcribed, i. 149.
Barabinzes, come into ſubjection to Ruſſia, i. 462.
Barguſin, baths on the, i. 244.
Barnaul, or Kolhyvan, mines of, more productive than thoſe of Nertſchinſk, ii. 314.
Barons, but few in number, ii. 105.
Baſchkirs, inhabit a part of the ancient Bolgaria, i. 473. ii. 129. Adopt coloniſts, ii. 217. Great proprietors of bee-hives, iii. 272.
Bath, ſudorific, in univerſal uſe, ii. 7. Owes its origin to cleanlineſs and convenience, ii. 9. Diſmiſſion of, from practice, 13. Account of the ruſſian, 55. Devours a monſtrous quantity of wood, iii. 257.
Bathing, hot and cold, Ruſſians early habituated to, ii. 54.
Battogues, ordered, by miſtake, to an officer, ii. 258.
Bath-room, ii. 42.
Baths, on the Terek, i. 242. Hot, much uſed by the Eſthonians and Livonians, 264.
Bays, in the Euxine and the ſea of Azof, i. 176.
Bay ſalt, iii. 323.
Beans and peas, very common, iii. 223.
Bear, moſt uſual method of killing the, ii. 440. Uſeful after his death in a great variety of ways, 444. Greedy of honey, iii. 274.

Beard, of the Ruſſians, ii. 3. 17. Many of the Buræts never have any, 87.
Beaſts and birds, abundance of, in the vallies of the Ural, i. 118.
Beaſts of draught and burden, a variety of, iii. 108.
Beaver, in the great rivers of Siberia, ii. 446. Has two kinds of hair, 448.
Beech, elm, maple, and poplar trees, chiefly the growth of the ſouthern regions, iii. 256.
Beer, metheglin and braga, ii. 45.
Bees, reared chiefly by the Baſhkirs, ii. 35. Management of, iii. 271.
Behm, major, encourages agriculture in Kamtſhatka, i. 156.
Behring's iſland, earthquakes in, i. 59.
Behring's iſland, i. 156. iii. 41. Expeditions to begin, 499. Behring and Tſchirikof, the famous navigators, iii. 40.
Beketof, lieutenant-general, improves the wine of Aſtrakhan, iii. 239.
Bells, the Ruſſians fond of ringing, ii. 63.
Beluga, a large fiſh, in the Frozen-ocean, iii. 16. Taken in the Caſpian, 51. Prodigiouſly large in the Volga, 55. In the Ural, 67, 71.
Bereſof, gold mines at, iii. 294. 296.
Berthold ſucceeds Meinard in the converſion of Livonia, i. 384.
Beſtuchef, the firſt count, a Scotchman, ii. 113.
Betrothing, ceremony of, ii. 57.
Biarmeland, kings of, ſcandinavian corſairs, i. 341.
Biarmia, where ſituate, i. 339.
Bible, ruſſian, ſignification of the word tzar in the, ii. 176.
Bielo-ozero, or White-lake, rivers of the, i. 208.
Birch, the bark and foliage of, very uſeful, iii. 255.
Births, proportion of to the living, i. 535. Births, deaths, and marriages, tables of, for 1799, 551. For the moſt part happy and eaſy, ii. 63. Preternatural, rare in Poland, 72.
Biſam, or muſk-rat, ii. 453.
Black-rooms, tſhornaia iſba, ii. 41, 42.
Blindneſs, occaſioned by the reflection of the ſun from the ice, ii. 376.
Blind-people, no country in Europe has ſo many as Poland, ii. 71.
Book, general genealogical, of the nobility, ii. 101.
Bogdo, one of the higheſt points of the Altay, i. 119.
Bogue, river, antiently called the Hypanis, riſes in Podolia, i. 240.
Bolgarians, empire of the Volgars, or, i. 259.
Books, church and ſchool, patent for printing, ii. 194.
Boors, of Mohn, live comfortably, i. 182. In Eſthonia and Livonia, not rich, 358. Various occupations of the, ii. 37. Malo-ruſſian, ii. 131. Belonging to the crown, 135. Of the Black-plough, 137. Belonging to the nobility or gentry, 144. By good behaviour may riſe to be officers, 259. Capitation paid by, 297. Opulence of ſome, 375. Their hard manner of life, 388. Pay a tribute or obrok, iii. 200. A boor ſells at 100 rubles, 209. On many eſtates work three or four days in the week for the lord, 212. Enrolled to the mines, 314. Edict regulating the labour of the, 338.
Boretſk, flouriſhing ſtate of the village, ii. 145.

Borka, or Ardu, empire of, i. 259.
Bosphorus, the empire of, comes to an end, i. 453.
Bothmann, a german vine-dreſſer, iii. 235.
Bows, taxes levied by the number of, ii. 322.
Boxing, a Ruſſian always beats a Buræt in, ii. 87.
Boyars, antient, what they were, ii. 94. 112. 162. *Senate*, inſtituted in place of the, 343.
Boyarſchtſchina, the feudal ſervice performed by the Boors, ii. 112.
Brackages on articles of merchandiſe for exportation, iii. 517.
Brandy, great conſumption of, ii. 215. 304. Diſtilleries, iii. 356.
Braſs and copper founderies, iii. 425.
Bread, fiſh a ſubſtitute for, iii. 48.
Bremen, archbiſhop of, i. 385.
Brewery, iii. 348.
Brick-buildings, greatly increaſed, iii. 259.
Bridge, of pontons, at Riga, i. 211. Over the Dnieper, at Kief, 239.
Bridges, fences, &c. made of wood, iii. 257.
Briſtles, an important article of exportation, iii. 108.
Britzanians, from Britzen, i. 258.
Broken bones, frequent among the Laplanders, ii. 82.
Brokerages, commiſſions, &c. iii. 521.
Bruce, the firſt count, from North-Britain, ii. 113.
Brutes, liable to the plica polonica, ii. 74.
Buffalo, multiplication of the, an important object, iii. 95.
Bukharia, the leſs, ſituation of, i. 478.
Buktarminſkoi-mountain, i. 129.
Buræts inhabit the north ſide of the Baikal, i. 435. Reſemble the Kalmuks, ii. 86.
Burdens, public, ii. 361.
Burghers, capitation paid by, ii. 296. Nominal, 414.
Burgundu, mountain, covered with perpetual ſnow, i. 139.
Burlaks, common mechanics, ii. 37.
Buſching, miſtaken in his notion that intenſe cold occaſions madneſs, i. 121.

C

Cabbage, conſumption of, immenſe, iii. 222.
Cabinet, the imperial, ii. 339.
Cabinet-making and coach-making, iii. 413.
Cabot, Sebaſtian, the famous navigator, ii. 475. 490. iii. 431.
Cadet-corps, for the navy, founded by Peter the Great, i. 194.
Caltrops, uſed in catching the bear, ii. 441.
Calves of the buffalo, eaſily tamed, iii. 96.
Camel, in ſome provinces of the ruſſian empire, iii. 118. Race of the, conſiderably diminiſhed, 121.
Canada and Siberia, the uninhabited wilds of, reſorted to by the beaver, ii. 448.
Canal, of the Ladoga, i. 204.
Canals, the conſtruction of, a principal object with Peter the Great, i. 251.

Cannon-founderies, iii. 425.
Canoes, made of the ſea-cows hide, iii. 35.
Caper-ſhrub, grows wild, iii. 189.
Capes, in the Frozen-ocean, i. 153.
Capitals, people living on the intereſt of their, pay no income-tax, ii. 368.
Capitation-tax, boors liable to the, ii. 98.
Captains, in the navy, ii. 271.
Capture of the ſea-cow, iii. 34.
Card, playing, manufactory, iii. 379.
Carpenter, every villager a, ii. 33.
Carpet-manufacture, iii. 386.
Carrier's trade, very profitable, ii. 35.
Carrots, parſnips, chicory, truffles, &c. iii. 223.
Caſpian, anciently called the Hyrcanian-ſea, i. 195. Formerly connected with the Baltic and the Euxine, 196. Its length and breadth, 198. Rivers that fall into the, 230. Naphtha ſources on the, 250. Fiſhery on the, iii. 491. Commerce of the, very antient, 441.
Caſtor, abounds in Siberia, ii. 452.
Caſtoreum, exported in various quantities, ii. 452.
Cataracts, beautiful in Behring's iſland, i. 157. In the Upper Tunguſka, 226. On the Dnieper, 240.
Catharine II. greatly promoted the welfare of the country, i. 512. Proſecuted the plans of Peter the Great, ii. 15. St. order of, ii. 232.
Cattle, the breeding of, iii. 85. Affords various means of livelihood, ii. 34. 93. The principal part of ukrainian huſbandry, 161.
Cavalry, regiments of, ii. 242. 245.
Caucaſian-mountains, i. 107.
Caucaſus, tribes of mount, i. 482.
Cedar-nut, in great plenty about the Ural, iii. 226. The ſiberian cedar, in the uralian mountains, 253.
Celibacy, the Kozaks enjoined to, i. 291.
Celts and Germans, deities and religious rites of the, i. 369. Not altogether unacquainted with images, 374. Had no temples, 377.
Chace, followed as a trade, ii. 35. Free throughout the empire, ii. 422. Objects of the, 425. Of the ſea-otter, tremendous, iii. 38.
Chaff-bread, eaten by rich and poor in Livonia and Eſthonia, i. 360.
Chalcoid, fiſh, excels the herring, iii. 81.
Chalybeate-waters, i. 246.
Chancellor, the poſt of, ſometimes left vacant, ii. 341.
Character, influenced by circumſtances, ii. 1. Depraved, of the Kamtſhadale dog, iii. 127.
Charcoal, annual conſumption of, iii. 259. Kilns, 419.
Charles IV. bought Brandenburg of the elector Otho, ii. 143.
Charles V. admits Plettenburg among the princes of the german empire, i. 316.
Chazares, loſt all their european poſſeſſions, i. 488.
Cheeſe, from buffalo's milk, iii. 96.

Chemical experiments on the water of the Neva, i. 218.
Cherry-trees, whole foreſts of, iii. 230.
Cheſnut-trees, in Taurida, Kief, and Voronetch, iii. 231.
Chevalier-guards, ii. 249.
Children, ſtill born, proportionately not numerous, ii. 6. Infirm, rare among the Lettes, 81.
China, northern paſſage to, i. 153. The trade to, 386. ii. 325.
Chivayans or Chivinſes, i. 479.
Chriſtianity, the Liefs and Lettes brought to the profeſſion of, i. 379. 304. Makes rapid progreſs in Eſthonia, 398.
Chriſtian-names, uſual among the Eſthonians and Livonians, i. 357.
Chriſtians, a curious way of making, i. 387.
Chundurovian Nogays, i. 472.
Church, a winter and a ſummer, ii. 67.
Churches, to build, meritorious, ii. 67.
Church-muſic, vocal, ii. 59.
Circaſſians, called by the Ruſſians Tſcherkeſſi, i. 483.
Circle-court, ii. 404.
Circulating-medium, of the empire, ii. 316. Amount of the, iii. 565.
Cities and towns on the ſhores of the Volga, i. 232. Principal mercantile, iii. 472.
Civilization, in the ſcale of, the herdſman ſtands above the fiſherman and the huntſman, iii. 85.
Claſſes of the ſubjects, ii. 91.
Cleanlineſs, a law of the tartarian religion, ii. 85.
Clergy, the utſchiugs formerly belonged to the, iii. 63.
Clergy, habits worn by the, ii. 48. Held in high honour, 67.
Clergy, a diſtinct claſs, ii. 114. Number of, 118. Influence and authority of, 161. And boyars aſſembled 164. Lutheran, good condition of the, 370.
Clerks, in the public offices, numerous, ii. 338.
Climate of Ruſſia, i. 19.
Clock-making, iii. 426.
Cloth and ſtuff manufactories, iii. 384.
Coal, found in the mountains of the Baikal, i. 137. In the ſteppe of the Don and Volga, 147.
Code of laws, no complete, in Ruſſia, ii. 199. Commiſſioners ſummoned for framing a, 210. National, 357.
Coins, meaſures and weights, iii. 544. Gold, 550. Now in circulation, 553. Intrinſic value of, 554.
Cold and it's effects, very remarkable, i. 42, 48.
College of general proviſion, ii. 401.
Colleges ſubordinate to the ſenate, ii. 219. Imperial 335. Deſcription of, 336, 348, 354.
Colonels, acquire additional authority, ii. 261.
Coloniſts, foreign, ii. 125. Poliſh, keep mongolian ſheep, iii. 101.
Colours, for dye-houſes, iii. 366.
Commerce, college of, ii. 353. By land, iii. 459. In general, 461. Internal, 468.
Commiſſions for the diſpatch of merchant-ſhips, iii. 520.

Commodities, chinese and siberian, progress of, to the fair at Irbit, iii. 470.
Common-council, larger towns have a, ii. 410.
Competence, not difficult to procure, ii. 374.
Constantine Porphyrogenneta, the emperor, i. 285.
Constantinople, russian armies before the gates of, i. 273.
Constitution, bodily, of the tartars in general, ii. 84.
Consuls, in foreign parts, ii. 349.
Contractors for brandy, ii. 307. The caspian fishery, undertaken by, iii. 51.
Contracts, made with the crown, ii. 99. 222.
Contributions, burdensome and arbitrary, the Kozaks formerly subject to, ii. 197.
Conversions from paganism, i. 380.
Copper, annual amount of, iii. 299. 316.
Copper-coinage, ii. 317.
Copper-island, visited in 1755, i. 157. iii. 41.
Copper, native, a piece of, weighing upwards of ten pounds, i. 159. Coins, respective value of, iii. 554.
Copper and iron mines, revenue from the, ii. 312. Quantity of, obtained in the empire, 315.
Copper-mines of the uralian mountains, iii. 299. To whom the richest belong, 307.
Corn, ripens in few places above the 60th deg. i. 25. Management of, ii. 28.
Corn, ineffectual attempts to cultivate, in the latitudes about Okhotsk, iii. 134. Different implements for reaping, 142.
Corn-land, good, obtained from useless morasses, iii. 150. Corn-tax imposed iii. 220.
Corn-kilns, without the towns and villages, ii. 42.
Cotton, produced in Russia, iii. 176. Manufactories, 383.
Council, the imperial, ii. 339. Petitioned against a decree of the senate, 345.
Country, face of the, i. 63. Natural disposition of the, iii. 133.
Counts, not so numerous as princes, ii. 105.
Courland, acquisition of, i. 281.
Court, imperial, ii. 229. Of conscience, 402.
Cow-horn, a national instrument, ii. 59.
Crabs, extremely numerous in the Volga, iii. 58. Abhorred by the country people, 83.
Cranberry, supplies the want of lemons, iii. 225.
Cronslot, a fort belonging to Cronstadt, i. 192.
Cronstadt, one inconvenience of the harbour of, ii. 280. Armament fitted out at, 285. Amount of duties at, 301. A projected canal to, i. 251. Formerly called Retusari, i. 191.
Crown, of Russia, devolves on either sex, ii. 156. In the vernacular language used for the sovereign power, 173.
Crown, mines belonging to the, iii. 301.
Crown-lands, to be sold, iii. 220.
Crusade, against the heathens in Livonia, i. 385.
Currants, the size of an ordinary cherry, iii. 225.
Custom-house, receipts at the, iii. 440.

Cuſtoms and uſages, of permanent validity, ii. 190.
Cyder, made in Mohn, i. 183.

D.

Dago, a conſiderable iſland of the Baltic, i. 178. Circumſtantially deſcribed, 185. The ſheep of, yield excellent wool, iii. 98.
Dances, of the Eſthonians and Livonians, i. 363.
Dancing, univerſally practiſed, ii. 61.
Danes, renounce the ſupremacy over Eſthonia, i. 399. Built monaſteries on the coaſts of Eſthonia, i. 378. Settled in Ruſſia, 505.
Daourta, congelation of the rivers in, i. 24.
Dead, ſincerely and long lamented, ii. 65.
Debt, national, ii. 332.
Declaration, added to the charter granted to the nobility, ii. 181.
Deformities, bodily, rarely ſeen in Ruſſia, ii. 17.
Dehkla, the tutelary goddeſs of parturient women, i. 371.
Deknavolok, peninſula, i. 87.
Demianſk, to the north of, little raiſed but barley and oats, iii. 123.
Demidof, *Akinfey*, a great proprietor of copper and iron mines, iii. 292.
Deneſchnoi-maſter, or maſter of the mint, iii. 545.
Denga, a tartarian money, iii. 546.
Deputies, government by, in Eſthonia and Livonia, ii. 198.
Denſhiks, or vaſſals allowed as menial ſervants, to the officers in the army and navy, ii. 263. 264. 272.
Derbetans, in the region of the Kokonoor, i. 431.
Deſyatine, a ſpace of ground eighty fathom by thirty, ii. 141.
Dida, the ſlavonian Cupid, ii. 68.
Diederik, monk, of Thoreyda, i. 383.
Diet, of the Poles, ii. 78.
Deti-boyarſkie, or boyars' children, ii. 106.
Dimſdale, Dr. inoculates the empreſs and the grand duke, i. 89.
Diocleſian and Conſtantine the Great, chriſtianity promulgated in the Krimea in the time of, 453.
Diſburſements, great, of the late empreſs, ii. 295.
Diſeaſes, what cauſe the greateſt mortality, i. 545. Peculiar to the Ruſſians, ii. 5. Exanthematic, abated by vapour-bathing, 13. Of the Poles, 70. Of the Laplanders, 82. Malignant, frequent among the Kalmuks, 86. Tunguſes know but little of, 88. The Kamtſhadales ſubject to very few, 89.
Diſpoſition, general, of the people, ii. 18.
Diſtilleries, revenue from the, ii. 305. Great deſtroyers of the foreſts, iii. 263. Extenſive, 354.
Diverſions, national, ii. 58. 62.
Diviſion of the empire, i. 26. By it's climates, 33.
Dmitri Donſkoy, i. 274. Defeats Mamai-khan, i. 420.
Dnieper, the ſteppe of the, i. 146. River, the ſame with the Boryſthenes, 239.

Dnieper, countries above the cataracts of the, granted by Sigiſmund to the Kozaks, i. 288.
Dockyards of Ruſſia, ii. 275.
Doctor, title of, conferred by the medical college, ii. 353.
Dœrbœn Oiræt, the quadruple alliance, i. 425.
Domain-lands, revenue ariſing from, ii. 299.
Dog, a ſubſtitute for the poſt-horſe, iii. 123.
Dogs and bears go fiſhing in Kamtſhatka, iii. 46.
Dollars, german, in great circulation, iii. 547.
Dolphins, in the Frozen-ocean, iii. 16.
Don and Volga, ſteppe of the, i. 146. The river Don, antiently called the Tanais, 237. A water communication from the, to Moſco, 251.
Donaleſk, the principal ſettlement of the Ruſſians in America, i. 4.
Donduk Ombo, khan of the Torgots, i. 432.
Donetz, flows through a fertile and populous country, i. 238.
Don kozaks, genuine Ruſſians, i. 285. 295.
Dorpat, a boor of, raiſes a regiment, i. 352.
Down, for beds, a conſiderable article of exportation, ii. 471.
Dragoon, expence of equipping a, ii. 262.
Draught, the dog muſt always be the principal animal for, in Kamtſhatka, iii. 124.
Dreſs, national, ii. 46.
Drevlanians, from derevo, a tree or wood, i. 270.
Dſhiggetei, an animal fleet beyond deſcription, iii. 116.
Dubofski kozaks, i. 298.
Ducats, when coined, iii. 550.
Duderhof-hills, in Ingria, i. 49.
Duna, river, greatly ſerviceable to commerce, i. 210.
Duſhagrek, a part of the female dreſs, ii. 49.
Dutchmen, winter on Novaya Zemlia, iii. 5.
Duties and taxes, remitted by the late empreſs, ii. 294. Exciſe and recognition, 322. Farming of, diſcontinued, 332. On articles of importation, ſettled by the laſt tariff, of 1797, iii. 477. How paid, 483. On the exportation of ruſſian products, 484. Paid in currency, 486. And impoſts, amount of, in 1797. 489. and impoſts received at the cuſtom-houſe in 1799. 533.
Dutka, muſical pipes, ii. 60.
Dvina, ſievernaia, the northern, i. 220. The mouth of, diſcovered by ſaxon merchants, 381.
Dvortzoviye leudi, retainers about a family manſion, ii. 139. iii. 198.
Dye-houſes, iii. 366.
Dyeing, plants uſeful in, iii. 180.

E.

Ears, large, of the Kalmuks, ii. 86.
Earthenware-manufactories, iii. 416.
Earthquakes, happen ſeldom, i. 59.
Eaſter-eggs, cuſtom of preſenting, ii. 67.

Eaſtern-ocean, iſlands in the, added to Ruſſia, i. 4. divided into two great parts, 154. Rivers that flow into the, 228. Fiſhery on the coaſts of, iii. 23.
Edict, regulating the labour of the boors, iii. 338.
Education-houſe, at Moſco, i. 580. Inſtitutions for, ii. 16.
Eels, neither in the Volga, nor the rivers that fall into it, iii. 58.
Eggs, of the eider-birds, a great delicacy in the parts about Kola, ii. 470.
Eider-down, morſe-captors employed in collecting, iii. 13.
Eider-fowl, plentiful about the coaſts of the White-ſea and the Northern-ocean, ii. 469.
Ekatarinenburg, medicinal ſprings near, i. 249. Annual produce of mines at, 312.
Ekatarinoſlaf, the vine cultivated in, iii. 243.
Ekonomitſheſkiye, or agricultural boors, ii. 140.
Elections, in general, ii. 403.
Electors, of the ſovereign, ſpecified, ii. 157.
Elizabeth, abuſes in the reign of, ii. 190, 191.
Elks, never ſeen beyond the 65th degree of latitude, ii. 456.
Elton, John, forms projects on the perſian trade, iii. 447.
Embankments of the rivers and canals of Peterſburg, i. 213. 214.
Emigrations of Kozaks to the Volga, i. 297.
Emperor, title of, aſſumed by Peter the Great, ii. 177.
England, conqueſt of by the Danes, i. 268.
Engliſh, in moſt of the ſeaport-towns, i. 505. Obtained a privilege for working iron ore, iii. 288. Deterred from engaging in a commerce with Perſia, 446. Licenſed to coin money, 545.
Engliſhmen and Scotchmen, ſerved under Peter the Great, ii. 258.
Enumerations or reviſions, i. 514.
Eparchies, liſt of the ii. 116. Have their own conſiſtories, 347.
Epidemical diſtempers, rare in Poland, ii. 71.
Erik, St. undertakes to ſubdue and to convert the Finns, i. 334.
Ermanarik, king of the Oſtrogoths, i. 265.
Ermines, rabbits, and marmottes, ii. 438.
Eſtate, value of an, how eſtimated, iii. 209. How made moſt productive, 213.
Eſtates, landed, various kinds of, ii. 110. Of the nation, not known, 163.
Eſthonia, fertility of, i. 64. Feodor abandons his claim to, i. 279. Puts itſelf under the protection of Sweden, 316. Sold to the teutonic-order, 337. Inhabitants of, deſcribed, 361. Pays tribute in rye and barley, ii. 321. And Livonia, commerce of the ports of, iii. 465.
Eſthonians, of ſimilar import with Eaſterns, i. 336. Their converſion, a work of great labour to the Germans, i. 351. Short of ſtature, 361. Not ſo quick-witted as the Ruſſians, ii. 384. Pay no obrok, iii. 211.
Etatſrath, in Livonia and Eſthonia, ii. 213.
Etorpu, one of the Kurilly iſlands, i. 166.
Euler, the academician, obſervations on the weather by, i. 27.
Europe, Slavonians occaſion ſignal revolutions in, i. 266.
Euxine, length and breadth of the i. 176. Rivers that flow into the, 236. Kozaks of the, 294. And Caſpian, commerce of the, iii. 440.

Euxine, fleet of the, ii. 268. Fiſhery on the, iii. 72.
Exchange, courſe of, at St. Peterſburg, iii. 502.
Exciſe and recognition duties, ii, 322.
Exhalations, noxious, from the bay of Emba, or Yemba, i. 201.
Expeditions in queſt of furs, iii. 41, Profits ariſing from, 44.
Expences on goods for exportation, iii. 515. Of importation, 518.
Expenditure, national, ii. 328.
Exportation, of what goods prohibited, iii. 486. In 1768 compared with that of 1793, 501.
Exports of furs, ii. 450, 451. Of products from the morſe-fiſhery in 1793, iii. 15. From the fiſhery of the Euxine and ſea of Azof, 73. From the culture of hemp, 173. From the culture of flax, 175. Of raw vegetable products in 1793, 194. General amount of, 336. From St. Peterſburg in 1742, compared with the preſent, 433. Statement of, 437. And imports on the Euxine, 451. For ſeveral years, 464. At St. Peterſburg, in 1784, 466. Of Kiachta, 468. Of Sweden, in metal goods, 474. Chief articles of, 499. Lower in 1795, 502. Riſe in the price of, from 1767 to 1795, 503. In britiſh ſhips, 1798, 511. In britiſh ſhips, 1799, 530.
Eyes, little narrow, of the Kalmuks, ii. 86.

F.

Face, of the Kalmuks, remarkably flat, ii. 85.
Fairs and markets, held in towns, ii. 23. 417.
Falconry, the Kalmuks and Nogays expert in, ii. 472.
Fallow-grounds, iii. 144.
Falls of the river Duna, i. 210.
Families, foreign, among the ruſſian nobility, ii. 113.
Family, imperial, 223. Have no fixed eſtabliſhments, 227. Family-vouchers of the nobility, 346.
Family-names in Livonia, i. 356.
Faſhion, german, obſerved in dreſs, ii. 46.
Feltmaking, iii. 387.
Female, ſex, moſt numerous in ſome governments, i. 539. Ruſſian, ii. 3. 18. Employments of, 39. Sovereigns, Ruſſia affirmed by ſome to have been the happieſt under, 156.
Feodor Ivanovitch, bequeathed the crown, ii. 167.
Fermented liquors, interdicted by the koran, ii. 85.
Fertility of the inhabitants of a country, how to judge of, i. 533. Ratio of the, 548.
Feudal ſyſtem, an impediment to agriculture, iii. 212. Examined in regard to Ruſſia, 214.
Fields, divided into three claſſes, iii. 143.
Figs and pomegranate-trees, near Kitzliar and in Taurida, iii. 232.
Figures holy, or obraſſi, ii. 43.
Finance-chamber, ii. 401.
Finland, gulf of, heavy gales in the, i. 48. Mountains of, 95. Length and breadth of, 177. Difficult of navigation, 178. Fiſh in the, iii. 75.
Finmark, always tributary to the Norwegians, i. 324.

Finns, and Slavonians the aborigenes of Ruſſia, i. 267. A nation remarkable for it's antiquity and it's wide extent, 321. Thought to be an european parent-ſtock, 327. Finniſh ſwarm divided into thirteen tribes, 326. Characteriſtics of, ii. 81.
Fire-arm manufactories, iii. 423.
Firs and pines, the moſt common trees, iii. 253.
Fiſh, plenty of, in the waters of the Ural mountains, i. 118. Of the Caſpian, 202. Of the Baikal, 203. The Dvina, abundant in, 220. The Oby, uncommonly prolific in, 222. The Irtyſh ſwarms with, ib. The Terek, with all it's collateral rivers, poor in, 235. The Don not to be compared with the Volga in regard to, 238. The Dnieper yields plenty of, 240. Great abundance of excellent in the Yeniſſey and the Lena, iii. 23. In aſtoniſhing quantities at Kamtſhatka, 46. Several kinds of in the Volga, 58. Of the Kamma, the moſt excellent of all Ruſſia, 59. Several kinds of in the Ural, 66. Of the Krimea, 72. In the gulf of Finland, 75. Of the Peipus, 77. Of the lake Ilmen, ib. A prime neceſſary of life with the peaſantry, 82. The ſole nouriſhment of the kamtſhadale dogs, 125.
Fiſheries, very conſiderable in the Frozen-ocean, i. 153. In the ports of the Baltic, 177. On the Peipus, 207. Of Dolgoy-oſtrof, 217.
Fiſhery, whole tribes maintained by the, iii. 1. On the coaſts of the White-ſea, 17. On the Oby, 21. On the Irtyſh, very conſiderable, 23. On the Caſpian, method of conducting the, 53. On the Volga, extremely productive, 57. On the Ural, 65. Ceremonies at the opening of, 68. Of Kertſh and Yenikaly, 72. On the Peipus, 77. Produce of the, 82.
Fiſhing, method of, among the Oſtiaks and Samoyedes, iii. 22.
Fiſh-oil, an article of exportation, iii. 79.
Flattering expreſſions, in great uſe, ii. 55.
Flatting-mills, iii. 422.
Flax, chiefly produced about Moſco and Kazan, ii. 30. Several ſpecies of, iii. 174.
Fleet of the Baltic, ii. 266, 270.
Fleſh, bees feed upon, iii. 276.
Flock-birds, from the northern climes, ii. 464.
Floods at Peterſburg, moſt memorable, i. 50. Riga ſubject to, from the Duna, 212.
Flotilla, on the Bogue and on the Dnieper, ii. 269.
Fominſin, family-name, originally Thomſon, ii. 113.
Fontanka, a river of Peterſburg, i. 213.
Forces of the empire, ii. 235.
Foreign-affairs, college of, ii. 348.
Foreigners, miſtaken in regard to the country of Ruſſia, i. 63. And inmates, ii. 414.
Foreign-miniſters in Ruſſia, ii. 350.
Foreſt-culture, iii. 251.
Foreſters, exceſſes committed by, ii. 276.
Foreſt-grounds, or buſh-lands, iii. 145. Scarcely ſeen in the Ukraine, 160.
Foreſts, i. 68. Such as are private property, 70. Very numerous in the regions of Nertſhinſk, 141. On the ſhores of the Don,

Don, 237. On thoſe of the Dnieper, 240. Whole verſts of, frequently burnt by negligence, ii. 29. Devaſtations of the, iii. 147. Belonging to private perſons, iii. 264. Belonging to the crown, 266.
Fortifications not to be conſidered as uſeleſs, ii. 240.
Fortreſſes, about the country, ii. 39.
Fortunes, large, poſſeſſed by the nobility, ii. 377.
Foſſils of the Ural mountains, i. 117.
Foundling-hoſpital, at Moſco, i. 578. At St. Peterſburg, 586.
Fowls, that frequent the Caſpian, i. 201.
Fox, four diſtinct ſpecies of, ii. 429. Black, great value of the, 430.
France, ravaged by the Varags, i. 268.
Franks, ſalique law among the, ii. 200.
Frederic II. introduced the culture of ſilk into his dominions, iii. 283.
Frenchbeans, ſeldom ripen in the northern provinces of Siberia, iii. 223.
French, diſperſed over the country, i. 505.
Fries, meteorological remarks by, i. 27.
Frieſland and Flanders, the Varags make incurſions into, i. 268.
Frontiers of Ruſſia, various, i. 11. Settled with its neighbours by treaty, 12.
Froſt, immenſe benefit of, to Ruſſia, i. 24. When it ſeizes the Don, 238.
Frozen, or Northern ocean, i. 151. Rivers that flow into the, 221. Fiſhery on the, iii. 3. Not very conſiderable, 17.
Fruit-bearing-ſhrubs, iii. 225.
Fruits, growing on the Mohn, i. 182.
Fulco, commiſſioned to convert the Finns and Eſthonians, i. 395.
Fumigatory powders, againſt the plague, i. 607.
Funerals, ceremony at, ii. 65.
Furniture, houſhold, very ſimple, ii. 42.
Furs, tribute paid in, ii. 289. 298. 321. 325. Chace for the ſake of, ii. 426. Importance of, it, 449. Of the ſea-otter, extremely valuable, iii. 39. Trade in, carried on by companies, 40. Of the ſeveral ſpecies of Fox, 43. Of the Goat, 107. The dyeing of, 376. Trade in, requires ſpeculation, 436.

G.

Gabrdebdis, the fiſherman's god, i. 371.
Gabſen, the ſteppe of the Volga and Ural, ſo called by the Kalmuks, i. 148.
Gait and geſtures of the Ruſſians, ii. 3.
Galdan Zeren, khan of the Soongares, i. 430.
Galleots, equipped at Okhotſk, iii. 41.
Galley-fleet, ii. 269. Able to bid defiance to Sweden, 283.
Game, great quantities of, in Ruſſia, ii. 463.
Game-laws, have not as yet been enacted, ii. 423.
Gandawyk, the Frozen-ocean ſo denominated by the Goths, i. 151.

Gardens, the culture of, iii 221. Ruſſians poſſeſs a peculiar talent for, 223.
Gardie, counts de la, proprietors of Dago, i. 187.
Garriſon-troops, ii. 248.
Gedemin, Kief falls to, i. 276. 286. 311.
Geeſe, wild, manner of catching, ii. 465.
Generals in the army, number of, ii. 241.
Genoeſe, make Keffa the centre of their commerce, i. 455.
Geographers, ancient, little acquainted with the Caſpian, i. 196. Strange account of Lapland given by, i. 331.
George, St. order of, ii. 232.
Georgians, or Gruſinians, the moſt numerous of the mountaineers of Caucaſus, i. 488.
Gepidi, conquerors of the Huns, i. 265, 266.
Germans, ſettled in Ruſſia, i. 503.
Ghoſts, apparitions, and hobgoblins, believed in, ii. 68.
Girls, early maturity of, ii. 3. 18.
Glaſs-manufactories, iii. 414.
Glutton, artifices of that animal, ii. 445.
Goats, a common domeſtic animal, iii. 106.
Godunof, the crown conveyed to, ii. 201.
Goitres, common about the upper Lena, ii. 6.
Gold, obtained at Barnaul, ii. 314. Quantity of, procured in the empire, 315. 319.
Gold coins, reſpective value of, iii. 553.
Gold, ſilver, and iron mines, iii. 287. Value obtained, 315. Gold and ſilver imported, 316. Lace-manufactures, 384. Gold and ſilver working, 426. Imported in 1797, 489. Imported in 1799, 533.
Golden bull, only a recognition of old laws, ii. 202.
Golomyanka, a fiſh peculiar to the Baikal, iii. 76.
Gomm, William, judicious financial operation of, ii. 320.
Goods imported free of duty, iii. 483. That pay no duties on exportation, 486. Imported at St. Peterſburg in 1797, 490. Imported in 1796, 504. Value of, exported and imported in 1799, 532.
Goranians, from *gora*, a mountain, i. 270.
Gorodba, a machine for catching fiſh, iii. 60.
Gorodnitſchey, or mayor, ii. 409.
Goſpodi pomilui! Lord have mercy, ii. 53.
Goſudarevui, boors belonging to the ſovereign, ii. 139.
Goſudarſtvenniye, or boors belonging to the empire, ii. 138.
Goths, in the weſtern regions of the roman empire, i. 257. Demoliſhers of the roman baths, ii. 9. And Greeks pay tribute to the Mongoles, i. 455.
Government of the empire, ii. 153. Form of the, 220. Governments, conſtitution of the, 391.
Government, took cognizance of the baths among the antients, ii. 9.
Governments, diſtribution of the, i. 256.
Governor-general, office of, ii. 396.
Grain, the ſeveral kinds of, cultivated about Peterſburg, iii. 156.
Grand-Duke and grand-prince, ii. 223. 225.
Granite, great quantities of, i. 98. Mountains of the Baikal, deſcribed by profeſſor Laxmann, 137.

Grapes,

Grapes, raiſed about Aſtrakhan, iii. 237. Four ſorts produced, 240. Kinds of, growing in Taurida, 242.
Graſier, buſineſs of the, in Ruſſia, iii. 86.
Graſs, a peculiar ſpecies of, fatal to horſes, i. 202.
Graſſman's diſſertation on the durability of ſhip-timber, ii. 280.
Grebenſkoi kozaks, i. 298.
Greece, emperors of, ſtyled tzars, ii. 177.
Greek religion, ſecured in the free exerciſe of its rites in the conquered provinces, i. 401. Externals of the, ii. 66.
Greeks and Armenians, about the Euxine, particularly fond of yellow kaviar, iii. 79. And Romans, baths of the, ii. 11. Firſt ſettle in the Krimea, i. 452. Colonies of, ii. 505.
Greeting, methods of, ii. 52.
Greig, Admiral, the ruſſian navy greatly benefited by, i. 193.
Greſham, Sir *John*, ii. 491.
Grieven, the tenth part of a ruble, iii. 550.
Grivna, grivenka, &c. uncertain what they were, iii. 546.
Groves, ſet apart for holy rites, i. 371.
Ground, nature and quality of the, i. 60. Beſt and moſt productive, iii. 135.
Guards, regiments of, ii. 248.
Guberlinſkoi mountains, i. 113.
Gudak, a wretched ſort of violin, ii. 60.
Guilds, merchants inſcribed in the, iii. 430.
Guldenſtædt's account of Caucaſus, i. 109.
Gunpowder and ſaltpetre, manufactories of, ii. 214. Gunpowder mills iii. 420.
Gurgenſburg, a fort built by the Swedes in Dago, i. 188.
Gurief, vaſt ſhoals of fiſh near, iii. 66.
Gurſew, the Caſpian ſo called by the Perſians, i. 195.
Guſli, a horizontal harp, ii. 60.
Gutſlef, *Eberhard*, ſuperintendant of Œſel, i. 402.
Gypſies and Jews, i. 507.

H.

Haak, hake or hack, a land meaſure explained, i. 387.
Hadſchy-Gheray, founds the khanate of the Krim, i. 456.
Hail, at Peterſburg, i. 55.
Hair, of all colours, liable to the plica polonica, ii. 74.
Hanſeatic-league, Novgorod and Pſcove, of the, iii. 429. 545.
Harbours, only three in the Frozen-ocean, i. 153. Of the Euxine and the ſea of Azof, 176. In the Baltic, 177. Of Cronſtadt, 192. Of the Caſpian, 202, iii. 442. Of the Euxine, moſt commodious, 452.
Hareſkins and catſkins, a conſiderable article of commerce, ii. 439.
Harrow, ſeveral ſorts of, iii. 141.
Hat-manufactories, iii. 387.
Havellanians, dwelt near the river Havel, i. 258.
Hazel-buſh, found as far as the Kama, 225.
Head-dreſs of the women, ii. 49.
Head-money, or poll-tax, ii. 296. 325. Loſſes by arrears in the, 332. Extended to Livonia, Eſthonia, and Finland, 371.

Health,

Health, cauſes contributing to, ii. 63.
Heat, in the ruſſian baths, ii. 10. Sudden tranſition from, to a rigorous froſt, 12.
Hedges, live, ſeldom ſeen, iii. 257.
Hellebore, much reputed for its medicinal virtues, ii. 7.
Hemp, indigenous in Ruſſia and Siberia, ii. 30. The production of, iii. 172.
Henry the Lette, curious particulars from the ancient chronicle of, i. 182. 314. 380. 393.
Heraclians, the pontic, and the Delians build Kherſon, i. 453.
Herald-maſter, office of, ii. 346.
Herdſmen, nations of, iii. 86.
Heretics and heathens, ſoldiers ſent to convert, i. 386.
Herodotus, Turks appear in, under the name of Maſſagetes, i. 438. The Uzes mentioned by, 440.
Herring-fiſhery, in the White-ſea, &c. iii. 18. Exceedingly plenty in the ſea of Kamtſhatka, 48, Importation of Herrings, 80.
Heruli, routed by the Longobards, i. 264.
Hertzberg, count, encourages the culture of ſilk, iii. 283.
Heſtholm, an iſland of the Baltic, i. 188.
Hides and tallow, main articles of ruſſian commerce, iii. 94.
Hierarchy, members of, appointed by the ſovereign, ii. 212.
High-roads laid with timber, iii. 257
Hindoſtan, the ſtate of Grand-Mongolia in, i. 424.
Hive, How many bees in one, iii. 275.
Hoar froſts, common, 155.
Hochland, or Hohgland, a conſiderable iſland of the gulf of Finland, i. 189.
Hog, a uſeful object of ruſſian farming, iii. 107.
Holidays, jovially kept, ii. 54. Court and church very numerous, ii. 230.
Holmgard, now Kholmogor, i. 269.
Holy-water, a remnant of the bath, ii. 8.
Honey, an important article of home conſumption, iii. 271.
Hops, propagated by the villagers, ii. 31. Grow wild, iii. 184.
Hop-bind, entirely thrown away, iii. 175.
Horſe-guards, young nobility enter of the, ii. 249.
Horſes and ſheep compoſe the principal wealth of the Kirghiſes and Kalmuks, iii. 99. Great numbers of horſes in Ruſſia, 108. Importation of, 112. Nomades ſupplied with moſt of their neceſſaries from, 114. Found wild, ib.
Horſes, ruſſian, ii. 34.
Horticulture, iii. 221.
Hoſpital, marine, at Cronſtadt, i. 195. Of St. Peterſburg, 569.
Hoſpitals, military, i. 574. Small-pox, 588.
Hot-ſprings, i. 241.
Houſe, in town or country, ii. 41.
Houſes, of the inhabitants of Œſel, i. 180. And buildings numbered, ii. 416.
Howard, Mr. *John*, his account of the hoſpitals, i. 576.
Hungarians, the only finniſh nation that belongs not to Ruſſia, i. 327.
Hungary, magnificent baths in, ii. 9.

Huns,

Huns, ſubdue the Oſtrogoths and the Slavi, i. 265.
Hunters and fiſhers, nations of, i. 508.
Hunting, every where the firſt occupation of mankind, ii. 421.
Hurricanes, tremendous in Siberia, i. 59. In Novaya Zemlia, iii. 6.
Huſbandry, diſtricts totally unfit for, iii. 133. Implements of, 138. Among the Finns, 155. Ukrainian, 159. Obſtacles to, 204.
Huſbands, behaviour of, ii. 56.
Hypanis, river, now the Kuban, i. 236.
Hyperboræas, montes, i. 111.
Hypochondria, common with the Laplanders, ii. 82.

I.

Ice, curious circumſtance in its formation in the rivers of Daouria, i. 24. Of the Neva, thickneſs of, 42. Of the Ladoga, 43. Utility of, 44. Accumulation of, at the mouth of the Neva, 50. When the Dnieper taken with, 239. Perils from floating, iii. 8. Water putrid, under the, 21. Caſpian, when free from, 50. Apertures made in the, for fiſhing, 68.
Ice-cellars, a neceſſary of life, i. 44. iii. 51.
Ice-fox, Steller's entertaining Account of the, ii. 431.
Ice-hills, conſtructed on the Neva, i. 44.
Ice-palace, built on the bank of the Neva, i. 44.
Iconium, the Sultan of, reduced to vaſſalage by the Mongoles, i. 416.
Idolatrous aſſemblies, i. 373.
Idols, in Liefland, i. 374.
Iggaunis, the Eſthes or Eſthonians ſo called in the lettiſh language, i. 350.
Igures, a poliſhed nation, who communicated the art of writing to the Mongoles, i. 410.
Ikarma, one of the Kurilly iſlands, i. 162.
Ilidſchutzay, a great and noble-minded man, i. 410. 413. Dies of grief, 417.
Illnesses, the Kamtſhadales ſubject to few, ii. 89.
Illyria, the eaſtern coaſt of the Adriatic, i. 309.
Ilmen, lake, dimenſions of the, i. 208. Fiſh of the lake, iii. 77.
Immenſoi ukaſes, ſuch as are ſigned by the monarch's own hand, ii. 186.
Immeretia, the kingdom of, i. 488.
Imperator and imperatritza, ii. 177.
Imperatorevitch, ſon of the emperor, ii. 223.
Imperialia, on the mines, relinquiſhed, ii. 189. 313. 318.
Imperials, firſt coined, iii. 551. Standard of, 556.
Impoſitions, of various kinds, practiſed, ii. 279.
Impoſts, public, ii. 361.
Imprecations, among the Eſthonians and Livonians, i. 366.
Incruſtaceous waters, i. 250.
Independent tartarian tribes, i. 477.
Indian commerce finds its way to the Krim, i. 455.
Indians, ſettlements of, i. 507.

Indigbirka, falls into the Frozen-ocean, i. 228.
Individual, comforts of the, ii. 361.
Induſtry, productive, ii. 419. Surplus of the, iii. 335.
Infantry, regiments of, ii. 243, 244.
Inflammations of the eyes, the Kamtſhadales ſubject to, ii. 89.
Ingria, and Karelia relinquiſhed to the Swedes, i. 279. Named from the Inger, 334. The poll-tax extended into, ii. 372. Boors of, live in affluence 377.
Inhabitants, diverſity of, in the ruſſian empire, i. 260. Phyſical ſtate of the, 513. Thirty millions of, iii. 468. Monthly conſumption of, 472.
Inoculation, i. 546. Only practiſed in large towns in Poland, ii. 71. Totally unknown among the Lithuanians, 79. An hoſpital for, inſtituted at Irkutſk, 87. Practiſed by the Kamtſhadales, 89.
Interment, ceremony at, ii. 65.
Intoxication, not diſgraceful, ii. 53.
Inundations of the Neva, i. 49. 219. The Don liable to, 237.
Jornandes and Procopius, the firſt by whom the Sclavi are diſtinctly named, i. 384.
Irbit, a famous fair held annually at, iii. 469.
Ireland, the Vargs make their appearance in, i. 268.
Irrigations, too copious, prejudicial to the grape, iii. 237.
Irtutſk, obſervations on the thermometer at, i. 23. Salt-ſprings in, 82. The art of inoculation taught at, 592.
Iron-mines, there are, ii. 300. To whom the richeſt belong, 307. Iron imported, 317. Founderies, 420. Forges, 421.
Iryſh, river, climate at the, i. 56. Steppe of the, 148. Its origin, 222.
Iſchim-ſteppe, many ancient tombs found in the, i. 149.
Iſet, a river of ſome conſequence, i. 224.
Iſhorſki, from the river Iſhora, i. 334.
Iſinglas, exported in 1793, iii. 78. Preparation of, 343.
Iſlands between Kamtſhatka and America, i. 171. In the Baltic, 177. In the Baikal, 203. In the Peipus, 206. Formed in the Yeniſſey, 225.
Italians, ſome remains of, in Taurida, i. 505.
Itch, very uſual among the Buræts, ii. 87.
Ivan I. reſtored the indiviſibility of the empire, i. 274. Refuſes obedience to the Tartars, 277. Reduces Ahmed-khan to vaſſalage, 420.
Ivanſka and Pavloſki, opulent villages, ii. 145.
Ivan Vaſſilliewitch, tzar, privileges and immunities granted to the Engliſh by, ii. 529. 542. Sets up a regular mint, iii. 545.
Iveria, conjectures concerning, ii. 180.
Judges appointed, and their duties preſcribed, ii. 358.
Juſtice, college of, ii. 352. Adminiſtered without fee or reward, 393.

K.

Kabarda, great and little, ſubmitted to Ruſſia, i. 3. 278. 486.
Kabaks, licences of, ii. 393.
Kachemir, the coſtly ſhawls wove at, iii. 107.

Kaffa, or Keffa, now Theodoſia, i. 176. Flouriſhed greatly in commerce, iii. 449.
Kalendar, curious, made by the boors of Œſel, i. 181.
Kalka, unfortunate battle on the, i. 306. 412.
Kalgueeva, an iſland in the Frozen-ocean, i. 152.
Kalmuks, volgaic, i. 432. Baptized, 433. Skull of, eaſily diſtinguiſhable from others, ii. 85. 129. Averſe to agriculture, iii. 101. Have goats among their flocks, 106.
Kammennoi-baran, or the rock-ram, ii. 462.
Kamma, or Kama, river, flows through an extent of a thouſand verſts, i. 233. Yields excellent fiſh, iii. 59.
Kamtſhadales, two carried away by a torrent of melted ſnow, i. 155. Account of the, 501. That are ſucceſsful in the capture of the ſea-lion, paſs for heroes, iii. 32. Characteriſtics of the, ii. 89.
Kamtſhatka, though ſurrounded by ſeas, yet very cold, i. 20. Earthquakes in, 59. Mountains of, 143. Peninſula of, 154. Mr. Kirwan's obſervations on the temperature of, 174. River, 230. Warm ſprings at, 246. The manner of catching ſables in, ii. 427. Foxes, 429. Capture of the ſea-bear about, iii. 31. Sea-cow, in multitudes at, 35. Endowed with an amazing abundance of fiſh, 45. Breed of dogs in, 123.
Kanglians, the ſame with the Petſchenegrans, i. 411.
Kantemir, princeſs, ſpirited conduct of, ii. 186.
Kantora, adopted into ruſs from the french word comptoir, ii. 352. Fiſh-kantora at Aſtrakhan, iii. 64.
Kaptſchak, khan of, the grand prince of Vladimir does homage to the, i. 275. A large and well-compacted empire, 419. Crumbles into four ſmaller ſtates, 420.
Kar, family of, originally from Scotland, ii. 113.
Karakalpaks, two hordes of, i. 481.
Karakitans, or Karakitayans, i. 408.
Karbaſſes, or boats, uſed by the morſe-captors, iii. 9.
Karakorum, the capital of Mongolia, i. 416.
Karelia, the firſt conqueſt of the Ingrians, i. 325.
Karſkoë morè, the karian-ſea, i. 151.
Kartuelia, or Kartalinia, ſubmitted to the ruſſian ſupremacy, i. 4. And Kakhetty, 282. 489.
Kaſachia, mentioned by Conſtantine Porphyrogenneta, i. 285.
Kaſimof, near, are the ruins of a palace and a mauſoleum, i. 448.
Kaſkir, an iſland of the gulf of Finland, dimenſions of, i. 188.
Katarina, canal, at Peterſburg, i. 215.
Kaviar, exported in 1793, iii. 78. Preparation of, 345.
Kazan, conquered in 1552, i. 3. 278. Empire of, united to Ruſſia for ever, 421. Built in the year 1257, 450. Oak timber brought from, ii. 277.
Keith, general, a ſignal exploit of, ii. 283.
Keremet, a place of worſhip, i. 346.
Keriſh and Yenikaly, conſiderable fiſheries at, iii. 72.
Kejar, adopted into the ruſſian tongue, to ſignify a roman emperor, ii. 177.
Ketoi, one of the Kurilly iſlands, i. 165.
Kettler, Gotthard, holds Courland as a fief of Poland, i. 316.

Kexholm and Karelia, subjected to the ruſſian empire, i. 280.
Khatanga, river, whence derives its origin, i. 226.
Khazares, from the Euxine, oppreſs the Slavonians, i. 267. Subdued by Oſkold, 272. A bold and powerful nation, 439.
Khazaria, the peninſula of the Krim, i. 154.
Khoin-Dabahn, a lofty mountain, i. 135.
Kholmogor, the ancient city of, i. 220. The calves of, in particular eſtimation, iii. 89.
Khoſchote, ſignifies warrior, or hero, i. 429.
Khovareſm, the ſultan of, i. 411.
Khrobates, from Khrebet, a mountain, i. 258.
Khulan, that animal thought to be the onager of the ancients, iii. 117.
Khutores, farms of the kozaks, ſo called, iii. 88.
Kiachta, mart of commerce with China, ii. 24. Amount of the duties at, 302. Cuſtom-houſe receipts from, iii. 467. Total of the imports and exports of, 468.
Kief, built by the danubian Slavi, i. 267. Falls under the Mongoles, 275. Devolves again to Ruſſia, 283. The capital of the ruſſian nation, 286. A ſecond time ravaged by the tartars, 287. Falls to Lithuania, 306. United again with the parent ſtate, 308. Surrendered to Tſchinghis-khan, 415. ii. 14.
Kiſtal, a curious fiſhing net, iii. 21.
Kimmerians, the firſt known inhabitants of the Krimea, i. 452.
Kirgheſes, or properly Kirghis-Kaiſaks, ſubmitted in 1731, i. 4. Whence their name, 285. Originally Nogays, 473. Have fine hornleſs cattle, iii. 90. Coats of the, 106. Animals belonging to the, 118. Trade with the, 460.
Kiſhniani, from the town Kuſſia, i. 258.
Kiſsly-ſchiſchky, manner of preparing, iii. 350.
Kiſtenzians, in the little Kabardia, i. 487.
Kitanes, Cathayans, or Chineſe, i. 408.
Kitzliar, cold at, i. 57. The grapes of, ſuperior to thoſe of Aſtrakhan, iii. 241.
Knighthood, orders of, ii. 231.
Knæpken, or Knopf, Andrew, carries the doctrines of Luther into Livonia, i. 401.
Knowles, Sir *Charles*, an obſervation of, ii. 278. 280.
Knut VI. king of Denmark, goes on an expedition to Eſthonia, i. 315.
Koblay, elected grand-khan, i. 417.
Koibals, Kamatchintzes, Karagaſſes, &c. i. 498.
Kola, the capital of ruſſian Lapland, i. 328. And Archangel, veſſels uſed on the rivers between, ii. 265. Whales frequent the gulf of, iii. 6.
Kolhywan, annual produce of the mines at, ii. 318. Silver-mines of, iii. 297.
Kolyma, or Kovyma, river, i. 228.
Kondoidi, Panaiota, preſident of the medical chancery, i. 556.
Kopeek, derivation of, iii. 545. No more coined of ſilver, 548. Undergoes ſeveral alterations, 552.
Koran, enjoins 205 faſt-days in the year, ii. 85.

Korbelkinſkoi,

Korbolikinſkoi, mountain, i. 126.
Korea, the kings of, i. 414.
Koriaki, country of the, i. 155. Account of the, 501. Their method of catching the bear, ii. 441.
Korol, a king, in modern ruſs, ii. 176. Probably adopted from Karolus, Carolus quintus.
Korole-vſtvo, a kingdom, ii. 176.
Korſakof, originally from Corſica, ii. 113.
Koſagi, a nation called, i. 285.
Koſſulia, the knife-plough, iii. 139.
Koſtroma, whiteneſs of the candles made at, iii. 347.
Kozak, probably a tartarian word, i. 284.
Kozaks, divided into two main branches, i. 285. Fiſhery on the Ural, granted to the, iii. 65.
Kozaks, diſtinct from the peaſantry, ii. 21. 128. 193. 216. Good ſoldiers, 236. 246.
Kozaks, of the Don, pay no public impoſts, ii. 289. Military ſervice of the, 327. Diſtil their own brandy, 373. Live in eaſe and affluence, 384.
Kraſt, profeſſor, calculations of, in regard to the extent of the empire, i. 10. 537.
Kraſnaya reba, red or beautiful fiſh, iii. 59.
Kraſnoyarſk, thermometrical obſervations at, i. 28. The copper-mines of, abandoned, 133. Proviſions extremely cheap at, 137.
Kraſnoyarſkian and Kuſnetſkian Tartars, i. 462.
Krim and the Kuban, united to the empire, i. 3. Mountains of the, 105. A part of, ſubdued by the Kozaks, 287. Incorporated with Ruſſia, 421. 457. Mutton of, excellent, iii. 99. Trade of the, heretofore uncommonly gainful and extenſive, 449. Population of, 457.
Kriviiſches, from krivi, the upper part, i. 270.
Kuban, the river, well adapted to navigation, i. 236.
Kuloi, and the Meſen, rivers, courſe of the, i. 220.
Kumani, or Komani, from the river Kuma, i. 259.
Kumanian-ſteppe, ſituation of the, i. 146. Has all the marks of an exſiccated ſea, 147.
Kumiſs, made from the camel's milk, iii. 120.
Kunaſyr, one of the Kurilly iſlands, i. 167.
Kures in Courland, Semigallia and Pilter, are true Lettes, i. 139.
Kurilly iſlands, earthquakes in the, 159. Included in the province of Kamtſhatka, 144. How ſituated, 159. 173. 174. Firſt diſcovered, 499. Haunts of the morſe proceed from the, iii. 11.
Kurils, hairy, i. 168. 502.
Kurrejaar, derivation of, i. 179.
Kurſk, fruits ripen at, in Auguſt, i. 23.
Kurtſhenkian-ſea, the Caſpian ſo denominated by the Georgians, i. 195.
Kuſchvinſk, medicinal ſource at the forges of, i. 249.
Kutomarſk, medicinal ſprings at the forges of, i. 249.
Kutſhuk-Kainardgi, peace of, i. 280.
Kuttis, a proceſs in agriculture, iii. 146.

Kutuſof, admiral, ſuperintendant of the marine cadet corps, i. 194.
Kyrialians, the ruſſian Finns formerly ſo called by the Norwegians, i. 325.

L.

Lada, the ſlavonian Venus, ii. 68.
Ladies, poliſh, famed for beauty, ii. 69.
Ladoga, lake, dimenſions of, i. 204. Abounds in fiſh, iii. 77.
Laima, the goddeſs invoked by pregnant women, i. 371.
Lakes, in the ſteppe of Petſhora, i. 145. Numerous in the ſteppe of the Irtyſh, 149. In Novaya Zemlia, 152. Bitter, in Siberia, 242.
Lambs, new-born, wrapped up in linen, iii. 102.
Lampreys, the devil's, iii. 75. Plentifully caught in the Volga, 83.
Lamutes, about the coaſts of the Frozen-ocean, i. 494. 502.
Land, greatly riſen in value, in Eſthonia and Livonia, ii. 196. 378. To which no valid title can be ſhewn, belongs to the crown, 215. Not ſubject to taxation, 368. Boors ſold with the, iii. 209.
Land-commerce, principal ſeats of, ii. 24.
Land-tolls, amount of, ii. 302.
Language, ruſſian, an improved dialect of the ſlavonian, ii. 16.
Languages, moſt of the european ſpoken by the zaporogian Kozaks, i. 292. Of the ruſſian language, iii. 572, 573.
Lapland, mountains of, i. 85. Many never entirely diveſted of ſnow, 96. Little known till the ſixteenth century, i. 331. Firſt occaſion of the Ruſſians ſettling in, 325.
Laplander, ſtory of a, i. 328.
Lappes, or Laplanders, i. 327. Phyſiognomy of the, ii. 81. Great proprietors of rein-deer, iii. 122.
Lappmark, round Kola, taken by the Ruſſians, i. 325.
Larch-tree, in the north of european Ruſſia, iii. 254.
Lavanſaari, the moſt populous of the iſles of the gulf of Finland, i. 190.
Laws, fundamental, ii. 198. Burgundian and Saxon, 200. Glance at the, 356. The capture of the morſe regulated by, iii. 11.
Lazarus, prince of Serbia, i. 309.
Lead, quantity of, obtained from the mines, ii. 315. Found in all the mines, iii. 317. Importation of, 318.
Leal, the inhabitants of, in order not to be burnt requeſt to be baptized, i. 397.
Leather-manufactures, iii. 387.
Ledovitoë morè, the frozen ocean ſo called by the Ruſſians, i. 151.
Leeches, about the Caſpian, i. 202.
Legiſlation, very much the ſtudy of the late empreſs, [illegible].
Lena, and Indighirka, ſteppe of the, i. 150. The great river of eaſtern Siberia, 227.
Leproſy, horrible, about the Caſpian, ii. 7.
Leſtocq, appointed archiater, i. 558.

Lettes, originally one people with the Lithuanians, i. 312. The country inhabited by them on the Baltic, anciently belonged to Ruſſia, 314. Call themſelves Latweetis, 321. Reſemble much the Lithuanians, ii. 80. Boors among them, who feel ſome conſequence from their riches, ii. 383.
Lewis XIV. military eſtabliſhment brought into uſe by, ii. 240.
Ligova, canal, ſupplies the fountains of the imperial gardens, i. 218.
Liman, fleet in the, ii. 269.
Limbs, harmonious proportion of, among the tartar women, ii. 84.
Linden-tree, the bark of, put to various uſes, ii. 33. iii. 255. Demoliſhed faſter than it grows, 262.
Linen manufactories, iii. 382.
Liquors, fermented, intemperate uſe of, i. 362. 543. Wholeſome, prepared by individuals, ii. 215.
Liſts of marriages, births and deaths, i. 529.
Lithuanians, Lettiſh, Livonians and Courlanders, deſcended from Sauromates and grecian coloniſts, i. 257. Lithuania, loſt to Poland, 281. A diſtinct branch of the Slavi, 310. Repulſed by the monk Meinhard, 382. Lower in ſtature than the Ruſſians and the Poles, ii. 79.
Little Ruſſia, the kozak eſtabliſhment almoſt effaced in, i. 289.
Litva, the Lithuanians, i. 310.
Livonia, fertility of, i. 64. Firſt diſcovered by ſome merchants of Bremen, 315. United with Poland, 316. Greater part of, inhabited by Eſthonians, 337. The reformation forces its way into, 401. Every man may follow his own religion in, 402. And Eſthonia, exempted from furniſhing recruits, ii. 321. Tables of the German tradeſmen in, 375. Liviſh language, words and phraſes of the, 404. Abundant in wild fowl, ii. 469. No obrok paid in, iii. 211. Annual produce of, 474.
Livonians, become chriſtians for fear of ſtarving, i. 389.
Loan-bank, imperial, balance of, iii. 522. Aſſignations-bank diſtinct from, 560.
Longevity of the Ruſſians, ii. 5. Owing to their baths, 12.
Long meaſure, compariſon of Ruſſian and foreign, iii. 567.
Lopari, or Laplanders, i. 328.
Lords, in Eſthonia, averſe to allow their boors to learn to write, i. 353.
Lubras, general, completes the famous canal at Cronſtadt, i. 193.
Luchinki, uſed inſtead of candles or lamps, iii. 257.
Lulkis, a kind of ſpiritus familiaris, i. 371.
Lunden, Andrew, archbiſhop of, i. 393.
Lutitzians, named after Loitz, i. 258.
Luxury, generally prevalent, ii. 374.
Lying-in-houſes, i. 587.

M

Mackarel caught in the Krimea, iii. 73.
Madder, growing wild, iii. 180.
Madſhares, Magyar, or Ugrians, now called Hungarians, i. 327.
Magazines, or ſtore-rooms, ii. 42.
Magiſtracy of the government, ii. 403.
Magna charta, a recognition of ancient rights and privileges, ii. 202.
Magneſia vitriolata, iii. 365.
Magnus, prince of Denmark, offered Livonia as a kingdom, i. 317.
Mahjaſkungs, a ſort of houſhold god, i. 370.
Mahte, the guardian goddeſs of children, i. 371.
Makan, Kur Aſſey, one of the Kurilly iſlands, i. 161.
Makarief, a celebrated fair held at, iii. 471.
Males, proportion of the deaths of, to thoſe of females, i. 538.
Malo-ruſſian Kozaks, origin of, i. 286. Put upon a regular military footing by Stephen Battori, 288.
Malting of corn, iii. 157.
Mandſchu, the preſent ſovereigns of China, i. 408.
Mandſhures, account of the, i. 490.
Mankats, or Nogays, a great and numerous people, i. 464.
Manku-khan, ſubdues all Aſia minor, i. 417.
Manufactories, firſt ſprung up under Peter the great, ii. 24.
Manufactures and trade, iii. 341.
Manure, not required by ſome lands, ii. 27. Abſolutely unneceſſary in the territory of Kraſnoyarſk, iii. 136. Artificial, not known, 153. No need of in the confines of the Yeniſſey, 164.
Marble, obtained from the iſle of Œſel, i. 180. Mount-in-cryſtal, &c. ii. 313. iii. 319. A curious antique, diſcovered on the iſle of Taman, i. 469.
March, the fiſhery on the Caſpian begins in, iii. 53.
Mare Sarmaticum, Mare Maruſa, and Mare Scythicum, the frozen ocean, i. 151.
Marine, expence of the, ii. 330.
Maritime commerce, principal places of, ii. 24.
Markets, in cities, towns and villages, ii. 22. Market towns, ii. 39.
Marriage-contract, made with mercantile formality, ii. 57.
Marten, the fineſt in Tobolſk, ii. 438.
Martyrs, in Livonia, i. 392.
Matmai, one of the Kurilly iſlands, near Japan, i. 159. 161.
Mat-ſhoes, worn by the peaſants, iii. 258.
Maxims, traditionary, ſupply the place of laws, ii. 300.
Mazeppa, the rebellious hetman of the Ukraine, i. 293.
Mead, the manner of preparing, iii. 351.

Meadows, i. 66.
Meadow-wool, growing in uſeleſs ſwamps, iii. 179.
Meaſles, not ſo fatal as elſewhere, ii. 6.
Meaſures, uſed in the ruſſian empire, iii. 565.
Medailleurs, brought from France, iii. 550.
Medes, northern, Sauromates, i. 257.
Medical chancery, endowed, i. 557. College, imperial, 559. College, ii. 353.
Medicinal plants, in great ſtore, iii. 189.
Medicine and ſurgery, ſchool of, i. 587.
Meebra Deeus, the god of wild beaſts, i. 371. 378.
Meinhard, an auguſtine monk, ſettles in Livonia, i. 315. 381.
Melons, thrive only to 52 deg. n. lat. iii. 226. Weighing thirty pounds, 227.
Members of the ſenate, ii. 344. Of the holy directing ſynod, 347. Of the college of foreign affairs, 348. College of war, 350. The admiralty, 351.
Merchandiſes, the importation whereof is prohibited, iii. 483. Imported and exported in 1797, 488.
Merchants, in maritime towns, opulence of, ii. 382. Goods imported and exported by, in 1797. iii. 524. In the year 1799. 536.
Meres, probably the preſent Mordvines, i. 270.
Meſchtſcheriæks, an old tartarian hive, i. 472.
Meſen, good condition of the boors of, ii. 376.
Metropolitan and archbiſhop, titles not attached to the ſee, but mere perſonal diſtinctions, ii. 67.
Meteorological table, for Peterſburg, i. 46.
Midwife, the virgin Mary's, ii. 68.
Migrations, ancient, a lively image of the, i. 433.
Miles, compariſon of various, iii. 569.
Mileſians, Theodoſia, or Keffa, built by the, i. 452.
Militia, national, aboliſhed, ii. 251.
Mineral products, amount of, ii. 315.
Minerals, the Ural mountains rich in, i. 117. Of the Altay, 124. Of the Sayane mountains, 135. Of the Baikal mountains, 137. Of the Nertſhinſkoi mountains, 141. Of the mountains of Okhotſk, 143. Mineral works, iii. 286. Prodigious importation of, 320.
Mines, german workmen in the, ii. 125. Boors of the, 143. Claims of the crown upon, abandoned, 197. Better regulated, 295. Belonging to the crown, 312. Product of the, 313. iii. 285. Viſited by Peter the great, 289. Conſtitution of the, 301. Belonging to private perſons, 302. Management of the, 308.
Mining, the art of, encouraged and advanced, iii. 291. Profits ariſing from, 306.
Miniſters in foreign parts, ii. 349.
Mint, national revenue from the, ii. 316. 319. 354. In Moſco and Peterſburg, iii. 549. 565.
Miracles, wrought in the converſion of the Livonians, i. 383.
Mithridates of Pontus, governs the whole Krimea, i. 453.
Mohammedan religion, eſtabliſhed in Siberia by Kutſchum-khan, i. 459.

Mohn, iſland of, i. 181.
Moika, a river of Peterſburg, i. 214.
Mole, of Cronſtadt, i. 193.
Monarch, concerning the, ii. 153. Abſolute, 220. 222.
Monaſteries, and churches have ſtill land belonging to them, ii. 39. 109. Number of, 118. Boors belonging to, 140.
Monaſtic ſtate, rendered harmleſs, iii. 198.
Moneta dobraya jena, rubel: good ſilver money, a ruble, iii. 549.
Money, copper, coined at Ekatarinenburg, at Suſun, and at Theodoſia, iii. 549. Value of a ruble in, 558. The whole circulating maſs of, 475, 565.
Mongoles, and Tartars attack ſouthern Ruſſia, i. 275. Once the terror and ſcourge of more than one quarter of the world, 341. 407. An entirely diſtinct nation from the Tartars, 419. Divided into two leading nations, 425, 426. Reſemble more the Kalmuks than the Buræts, ii. 87.
Monopolies of the crown aboliſhed, ii. 214.
Monſeigneur, the grand duke alone ſo addreſſed, ii. 224.
Montague, lady Mary Wortley, ii. 12.
Moraſſes, in the empire, i 77. The draining of, iii. 148.
Moravians, reſided on the banks of the river Moravia, i. 258.
Mordvines, a very conſiderable nation, i. 346.
Morſe, voyages for catching the, ii. 437. Called alſo Wallruſs, iii. 3. Method of taking the, 7. Of the ſize of a large ox, 10.
Morſkoie-ſaez, the ſea-hare, iii. 16.
Mortality, quantum of, i. 536. Great, among the children of the Laplanders, ii. 82.
Moſco, when the rivers freeze at, i. 56. Founded in 1147 by Yury, 275. The khan of Turan brought priſoner to, 422. Ravaged by Tamerlan, 423. Plague rages at, 606. The firſt ſtriking-clock put up at, iii. 427.
Moſes of Chorena, the armenian hiſtorian, i. 264.
Mountains, of the empire, i. 72. 84. in Copper-iſland, very lofty, 158.
Mſtiſlaf marches againſt the Tſchudes and Semgallians, i. 337.
Mulberries, yellow, a drink made from, iii. 12.
Mulberry-tree, very plentiful in ſouthern Ruſſia, iii. 277.
Muller, his opinion concerning the ſeveral appellations of Ruſſia, i. 8.
Munich, count, gives advice to the empreſs Anne, ii. 84. Extraordinary powers granted to, 188.
Municipal conſtitution, ii. 408.
Muremanſkoï morè, the frozen ocean ſo called anciently by the Ruſſians, i. 151.
Muſcovy-glaſs, famous pits of, i. 137.
Muſhrooms, edible, a variety of, iii. 223.
Muſic, and dancing, in the iſle of Œſel, i. 180. In Livonia and Eſthonia, 362.
Muſic-maſter, domeſtic, uſual ſalary of a, in a nobleman's ſervice in Livonia and Eſthonia, ii. 381.
Muſk, the beſt from Thibet, ii. 454. Seems to have been quite unknown to the Greeks and Romans, 456.

Muſſyr, one of the Kurilly iſlands, i. 163.
Muſtard, wild, grows plentifully, iii. 188.
Mutova, one of the Kurilly iſlands, i. 163.

N.

Nadir ſhah, makes Mr. John Elton an admiral, iii. 448.
Nags, livonian, famous for fleetneſs and perſeverance, iii. 109.
Nail manufactories, iii. 422.
Naliwu, a tranſparent ſort of apple, iii. 229.
Naphtha, ſources of, i. 244. 249.
Nargon, an iſland of the gulf of Finland, i. 188.
Narhwal, or the ſpermaceti whale, iii. 3. Abound in the frozen ocean, 15.
Narva, exports of, iii. 436.
Narym-Oſtiaks, i. 497.
Naryn, ſalt-grounds in, i. 83.
Naſlednik, an heir or ſucceſſor, ii. 224.
National contraſts, in the ruſſian empire, i. 511. Revenue, exceeds that of other countries, ii. 327. Subject to great drawbacks, from negligence and fraud, 331.
Nations, uncivilized contiguous to the empire, i. 15. Of the Ruſſian empire, 255. Of the Finns have no chronicles of their own, 322. Of uncertain origin, 494. European and aſiatic, 503. That have followed agriculture from time immemorial, iii. 132.
Naturaliſts, an intereſting remark made by, iii. 47.
Navy, of the ruſſian empire, ii. 264. Expence attending the, 275.
Neat cattle, large droves of, iii. 87. Southern Ruſſia well adapted to the rearing of, 95.
Needle manufactories, iii. 423.
Negroes ſell for more money than Eſthonian boors, i. 355.
Nenetſch, the Samoyedes call themſelves, i. 496.
Nertſchinſk, annual produce of the mines at, ii. 312. Induſtry and proſperity of, 385.
Nertſhinſkoi mountains, i. 140. Lead mines of the, iii. 298.
Neſtor, the oldeſt and moſt authentic ruſſian annaliſt, i. 313. Deſcribes the baths exactly as they are at preſent, ii. 8.
Nets, for catching the whale, iii. 25. Uſed on the Ural, 70. On the ſea of Azof, 72. On the Peipus, 77. Fiſh compelled by, to go back to the ſea, 84.
Nettle, ſiberian, iii. 175.
Neva, ceremony obſerved at the departure of the ice of the, i. 47. The only outlet to the Ladoga, 105. 212. The Little Neva, 215.
Nevka, bolſhaia and malaia, i. 213.
Newſki monaſtery, ſo called from the river Neva, i. 212.
Nikolai, canal, at Peterſburg, i. 215.
Nikolayef on the Bogue, ſtate of the thermometer at, i. 37.
Nikon, the patriarch, ii. 184.
Niniveh, the Mongoles march through, i. 416.

Niudſches,

Niudſches, monuments of the, i. 492.
Nobility, only one ſpecies of, ii. 94. 219. Diviſions or orders of, 102. Very numerous, 103. Patents of, obtained from Vienna, 110. Wealthy condition of the, 378.
Noblemen, ſimple, ii. 106.
Nobleſſe, conferred by the principal boyars and clergy, ii. 162.
Nogayans, of the Kuban, i. 471. Chief wealth of the, conſiſts in cattle, iii. 90.
Normandy, denominated from the Normanni, i. 268.
Normanni, a warlike ſwarm, of gothic deſcent, i. 268.
North, the finniſh, partitioned among three ſovereigns, i. 326.
Norwegians, the firſt who ſubjected a part of the finniſh north, i. 324.
Notions, religious, a variety of, in the ruſſian empire, i. 510.
Novgorod, conſtructed by the danubian Slavi, i. 267. Grows rich by commerce, 276. Early trade of, ii. 23.
Novaya Zemlia, account of, i. 152. Not inhabited by Samoyedes, 496. iii. 4.
Nuk, or Nukoe, an iſland in the gulf of Finland, i. 188.
Nunneries, number of, ii. 118.
Nuptials, ceremony of, ii. 57.
Nuts, vaſt conſumption of, iii. 226.
Nyeſchantz, a ſwediſh redoubt on the Neva, i. 49.

O.

Oak uſed for ſhip-building, ii. 276. Indigenous only in the european part of Ruſſia, iii. 255.
Oaths and curſes, little uſed, ii. 55.
Obrok, raiſed, ii. 295. Explanation of, 299. 325. Loſſes by arrears in the, 332. 369. iii. 200. 213. 215.
Obſchtſchei Sirt, the mounts of ſeparation, i. 112.
Obſkoï guba, a very ſpacious bay, i. 151.
Obv and Yeniſſey, the ſteppe of the, i. 150.
Oby, the largeſt river of the ruſſian empire, i. 221. Tartars of the, 462. Swarms with migrating fiſh, iii. 20.
Odenſholm, an iſland of the Baltic, i. 188.
Odiſſa, the flotilla at, ii. 286.
Odnodvortzi, etymology and meaning of, ii. 92. 109. 126. Proprietors of land, 215. Capitation paid by, 297. Pay no obrok, nor perform feudal ſervice, iii. 211.
Œconomical ſociety, of ſervice to agricultural knowledge, iii. 218.
Œconomy-boors, ii. 143.
Œlœt, the proper Kalmuks, i. 425. The principal branch of the Mongole nations, 428. 472.
Œſel, a conſiderable iſland of the Baltic, i. 178. 193. Subdued to chriſtianity, 400. Sheep thrive well on, iii. 98.
Œvaes, the Tunguſes call themſelves, i. 491.
Offerings, propitiatory, i. 373.
Officers, pay of the military, ii. 263. Fore[illegible], 283. Duties of, defined, 359.

Oyik

Ogilvie, general, ſpirited behaviour of, ii. 259.
Oil-plants, only hemp and linſeed cultivated to any extent, iii. 186.
Oil-preſſing, iii. 341.
Okhotſk, mountains of, i. 142. The ſea of, 154.
Okka, a very conſiderable river, flowing into the Volga, i. 234.
Oktay, the ſon of Tſchinghis-khan, i. 414. His widow uſurps the khanate, 417.
Okto-Karagai, an arm of mountains in the kirghiſian ſteppe, i. 113.
Olai, or St. Olave's church, at Reval, i. 374.
Olearius, Adam, quotation from, iii. 547.
Olive-tree, cultivated at Aſtrakhan, iii. 186.
Oleg, ſucceſſor of Rurik, i. 273. Reduces the Severans and the Radimitſches to his authority, i. 439.
Omſk, cold at, i. 57.
Omul, a fiſh in the ſouthern ſeas, iii. 18. Great quantities in the Baikal, 76.
Onega, lake, account of the, i. 205. Fiſh of the, iii. 77.
Onions, garlic and cucumbers, eaten raw, iii. 223.
Onon, a grand council held at the ſources of the river, i. 409.
Oral-court, for petty diſputes, ii. 411.
Orange and lemon-trees, iii. 232.
Orchard-fruits, iii. 227. Great returns made by, 229.
Orchards, ii. 31.
Ordinſkoi kozaks, from the great *orda* or horde, i. 285.
Orenburg-kozaks, i. 300.
Orenburg, trade of, ii. 302.
Origin, nations of uncertain, i. 494.
Orphan-court, noble, ii. 405.
Orthodox greek church, the ſovereigns of Ruſſia always of the, ii. 173.
Oſkold and Dir, varagian leaders, founders of the ſovereignty at Kief, i. 268. 439.
Oſſetinzians, or Oſſes, i. 487.
Oſtiaks of the Oby, i. 347. Small-pox not known among them till the arrival of the Ruſſians, ii. 83. Of the Yeniſſey, i. 493. 497. Of the Oby, ii. 466.
Oſtrogs, a ſort of priſons, ii. 40.
Otchakof, the territory of, a frontier, i. 10. Seven ſorts of vines grow in the diſtricts of, iii. 243.
Othere of Halgoland diſcovered the Permians, i. 339.
Othin or Odin, the univerſal deity of the Teutons, i. 339.
Otter, in moſt of the ſiberian rivers, ii. 446.
Ovin, a ruſſian corn-kiln, iii. 157.
Oxen, uſed for draught, ii. 34. Of Podolia, long famous, iii. 88.
Oxus, countries as far as the, ſubmit to Tſchinghis, i. 412.

Paga-

P.

Paganiſm, livonian, i. 368. Curious remains of, 376.
Paint, a neceſſary in female dreſs, ii. 50.
Palace, annual expences of the, ii. 233.
Pallas, profeſſor, his animated deſcription of Taurida, i. 30. Settles there, 32. Remarks concerning ſalt, 80.
Panacea, the ruſſian, ii. 7.
Panin, family of, originally Genoeſe, ii. 113. Count, vicechancellor, 342.
Pantikapæum, or Boſphorus, built by the Mileſians, i. 452.
Paper and paper-hanging manufactory, iii. 379.
Paper-money, or bank aſſignations, iii. 559.
Pariſh-churches and cathedrals, number of, ii. 117.
Parobitch, improves the culture of the vine, iii. 236.
Partition of the ruſſian territory, i. 273.
Paſſion-week, kept with great apparent ſolemnity, ii. 67.
Paſtorates, livonian and eſthonian, are real manors, with vaſſals upon them, ii. 109. 368. 380.
Paſture-grounds, i. 79. The richeſt, conſiſt of prodigious ſteppes, or moors, iii. 93.
Patents of ſtaff-officers, muſt be ſigned by the monarch, ii. 213. Fees paid on making out, ii. 368.
Paternoſter, in the old vendiſh and in the lettiſh, i. 403.
Patriarchal dignity, for a long time interwoven with the conſtitution, ii. 194.
Pavlova, induſtry of the boors at, ii. 38.
Paul Petrovitch, preſident of the admiralty, ii. 351.
Pay, ſmall, of the Ruſſian ſoldiers, ii. 253. 263.
Peaſants, in Eſthonia and Livonia, not equal to the Germans in bodily ſtrength, i. 360. Free, ii. 124. 132. Few that do not poſſeſs a horſe or two, iii. 109.
Peaſantry, diſtinctions among the, ii. 20. Livonian and eſthonian, ii. 383.
Pecuniary penalties, ii. 323.
Peipus, lake, always decreaſing in breadth, i. 206. Called in ruſs Tſchudſkoie ozero, 336.
Penjinſkoye morè, i. 154.
Peniſaari, an iſland in the gulf of Finland, i. 191.
People, ſeveral claſſes of the, ii. 19.
Percentage, on the capital of merchants, ii. 298.
Perme, expence of the government of, ii. 330.
Permia, annual expeditions to, i. 324. 340.
Permians, a remarkable nation in the Finniſh hiſtory, i. 338. In ages very remote traded with the Perſians and Indians, 340.
Perry, captain, on the inſtitution of the ſenate, ii. 343.
Perſeverance, of the Ruſſians, ii. 5.
Perſian havens on the Caſpian, iii. 443. Provinces relinquiſhed, 447. Commerce by land, 459.

Perſpiration, natural, promoted by the vapour-bath, ii. 13.
Pertnavolok, peninſula, i. 89.
Perune, the univerſal deity of the Slavonians and Lettes, i. 339.
Peter the great, vigorous transformations made by, i. 308.
Peterſburg, climate of, i. 36. Expence of the government of, 330.
Petſhora, the ſteppe, or moor of, i. 145.
Petſhora, river, i. 221.
Petition, preſented to the empreſs Anna, ii. 184. Muſt be delivered to one of the miniſters, 222.
Petrozavodſk, a great cannon-foundery at, iii. 420.
Petſchenegrans, a powerful nomadic nation, i. 440.
Phanagoria, formerly the iſland Taman, ii. 247.
Pharmacopœia Roſſica, i. 562.
Pharmacy, not a novel introduction, iii. 378.
Phœnicians early viſited the coaſts of the Euxine, i. 467.
Phyſicians, old, employed the bath with great ſucceſs, ii. 13. Rarely applied to by the common Poles, ii. 78. And ſurgeons in Livonia, ii. 381.
Phiſiognomy, of the Finns, ii. 81.
Pillory, a thief obliged to ſtand three days in the, i. 292.
Pilnibis, the god of plenty, i. 371.
Pilten, biſhopric of, obtained by Magnus, Prince of Denmark, i. 317.
Pimento, much cultivated about Aſtrakhan, iii. 189.
Pitch-drawing, the buſineſs of, iii. 417.
Placemen, pay no tax on their ſalaries, ii. 368.
Plague, inſtitutions againſt the, i. 594. The Turks take no precautions to avoid, ii. 71.
Plate-glaſs-manufactories, iii. 414.
Plays, biblical, i. 391.
Pleſchiſchéyef's remarks on the quality of the ſoil, i. 60.
Plettenburg, Walther von, maſter of the teutonic order, made a prince of the german empire, i. 316.
Plica polonica, circumſtantial account of the, ii. 73.
Pliny, quotation from, i. 349.
Plough, the commoneſt kind of, iii. 139. In ſome parts unneceſſary, 151. The ukrainian, 159. Heavy uſed by the Tartars, 365.
Plumbs and cherries, grow wild to the 55th deg. n. lat. iii. 228. Importation of, in 1794. 231.
Pogromna, a ſpring at, reſembling Seltzer water, i. 249.
Polabes, ſo denominated from the Laba or Elbe, i. 258.
Polachs, the primitive denomination of the Poles, i. 259.
Polænians, from *pole*, a field or plain, i. 270.
Poland, countries taken from, united to the empire, i. 3. Slavonian tribes withdrew to, i. 266. Political exiſtence of, annihilated, 281. The Malo-ruſſian Kozaks a barrier to, 287.
Poles, next to the Ruſſians, the moſt numerous ſlavonian nation of the empire, i. 305. Make themſelves maſters of Moſco, 307. In deſcent and language related to the Ruſſians, ii. 69. Viſited by more violent and malignant diſeaſes than the Ruſſians, 70.

Poll-tax, rendered more general, ii. 295. At a ſtated amount, ii. 370.
Polotzani, lived near the ſhores of the Polota, i. 258.
Polovtzes, called alſo Komanians, iii. 449.
Poltiniki and polpoltiniki, coined, iii. 550.
Polytheiſm, the Livonians unjuſtly charged with, i. 368.
Pomeranians, dwelt po moru, near the ſea, i. 258.
Pomponius Mela, mentions Albion and Bergion as ſons of Hercules, i. 349.
Polygamy, allowed by the koran, ii. 85.
Poppies, heads of, ſuſpended in fermenting wine, iii. 242.
Population, burdenſome on the iſle of Dago, i. 186. Population and populouſneſs, i. 514. Inſtitutions for the preſervation and increaſe of, 553. iii. 196.
Porcelain-manufactories, iii. 416.
Porog, a cataract, i. 291.
Poromuſhir, one of the Kurilly iſlands, i. 160.
Ports, from whence goods were exported in 1793, iii. 500.
Poſchlin, or duty on law proceedings, ii. 302.
Poſts or offices, military rank annexed to all, ii. 213.
Potaſh-making, iii. 361.
Potatoes, introduced into Kamtſhatka, i. 256. Neither much cultivated nor eaten in Ruſſia, ii. 79.
Potemkin, prince, hetman of the Kozaks, ii. 237. Forms a large regiment of cuiraſſiers, 245. Introduced new regulations into the army, 253. Corrected many abuſes, 261. Preſident of the college of war, ii. 350.
Poterpelitz, plenty of iron at, i. 104.
Potter's clay, where found, i. 99.
Pott-fiſh, yields ſpermaceti, iii. 15.
Poultry, in Siberia, ii. 34, 35.
Power, ſovereign, unlimited, ii. 164. 205. Communicated ſolely by the ſovereign, ii. 188. Abuſe of, will occaſionally happen in all governments, 191.
Preſtol, a throne, ii. 224.
Prices of the ſeveral articles of proviſion and neceſſaries at St. Peterſburg, January 1800, iii. 542.
Pridvornaya kantora, ii. 140.
Prieſt, ceremony on meeting, ii. 67. Pays no capitation tax for his ſons, 115.
Prieſts, eſthonian, ſtrange notions of the, i. 383.
Princes, number of, extremely large, ii. 104. And princeſſes, 224.
Principalities, independent, ii. 174.
Printing-office, every ſuperior college has its own, ii. 138. iii. 380.
Pripiſniye, or enrolled boors, ii. 136.
Priſons, have their inſpectors, ii. 408.
Privileges of the nobility, ii. 96. Enlarged, 100. Charter of, 103.
Privy-counſellor, titular or actual, ii. 213.
Procureur, of the colleges, ii. 337. Of the ſenate, 346.
Products, natural, revenue ariſing from, ii. 329. Siberian, brought into Ruſſia, iii. 470. Exported in 1793, 496.

Expreſſions,

Profeſſions, learned, exempt from taxes, ii. 368.
Promotion, open to ſailors, ii. 274.
Promuiſchlenniki, hunters by profeſſion, i. 500.
Property, confiſcation of, aboliſhed, ii. 408. In mines, right of, iii. 304.
Proſhai, uſed at taking leave ii. 53.
Proſorofsky, general, ii. 257.
Protopope, or archprieſt, ii. 347.
Pſcove and Tver, principalities of, ſubmit to Ivan Vaſſillievitch I. i. 277.
Ptolomy's hypotheſis concerning the Caſpian, i. 196.
Public baths, deſcribed, ii. 9.
Pugatſhef, Yemelyan, the famous rebel, i. 301.
Puniſhments, capital, extremely rare, ii. 408.
Puppies, in Kamtſhatka, thrown into a dark pit, iii. 125.
Puſhkiers, the tutelar deity of foreſts, i. 371.
Pygmies, race of, not fabulous, i. 331.

Q.

Qualities, good, of the kamtſhadale dog, overbalance his bad ones, iii. 128.
Quarrelſome, Ruſſians not, ii. 53.
Quarries, in the iſle of Œſel, i. 180.
Quas, properties of, i. 577. The ordinary domeſtic beverage, ii. 43. iii. 7. 12. Manner of preparing, 349.
Quay, famous, of the Neva, i. 216.
Quenlanders or Kayanians, the Laplanders, i. 327.
Queſtmen, to look after the adulteration of brandy, ii. 308.
Quobbe, and a multitude of other fiſh, abound in the Oby, iii. 20. In the Irtyſh, 23. In the Volga, 58. In the Peipus, 77.

R.

Rach-koke, one of the Kurilly iſlands, i. 163.
Rachmanin, Feodor, wintered 26 times on Novaya-Zemlia, iii. 5.
Ragnvald, reigned in Polotſk. i. 268.
Rain, and ſnow, falling at St. Peterſburg, i. 40. very copious, 58.
Rank, titles derived from, ii. 113.
Raſſagu, one of the Kurilly iſlands, i. 164.
Rebellion againſt their maſters, frequent among the Serfs in Livonia and Eſthonia, i. 365.
Rebs, or marena, a ſpecies of herring, iii. 77.
Recruits, ſome diſtricts exempted from furniſhing, ii. 238. Money for, 323.
Regency, may be appointed by the ſovereign, during the minority of his ſucceſſor, ii. 218.
Regiments, ſtationary, beneficial, ii. 240. Regular, conſiſt of ſix quadrons, 254.
Regulation, municipal, ii. 123.
Reindeer, nowhere found but in Lapland, i. 332. An exceedingly uſeful animal, ii. 457, 458, 459. Warm blood of the, taken

taken againſt the ſcurvy, iii. 12. His uncommon utility, 121.
Reinikin, aſſeſſor, encourages huſbandry in Kamtſhatka, i 156.
Religion of the Livonians, i. 366. The uſe of the bath interwoven with, ii. 8.
Remedies, domeſtic, ii. 7.
Remonſtrance, concerning a law, may be made, ii. 187.
Repaſt, evening, 245.
Reports, icelandic, make frequent mention of the Permians, i. 339.
Requeſt-maſter-general, office of, 246.
Reval, the harbour of, ii. 280. Amount of cuſtoms at, ii. 300. Revenues from, 326. Expence of the government of, 330. Exports of, iii. 435.
Revenues of the empire, diſpoſable at the ſole will of the monarch, ii. 206. Amount of, 324. Annual, iii. 476.
Rhœdung, a proceſs in agriculture, iii. 146.
Rhubarb, the genuine or Chineſe, iii. 189.
Rhymnus, the ancient name of the Ural, i. 231.
Riga built, i. 390. Amount of cuſtoms at, ii. 300. Muſt be paid in dollars, 319. Revenues from, 326. Expence of the government of, 330. Commerce of, iii. 434.
Rilek, the common village-lyre, ii. 60.
Riſti kirrick, or croſs-church, i. 376.
Rivers, congelation of, i. 23. Of the Altay-mountains, 134. Of the Sayane-mountains, 136. Of the Baikal-mountains, 140. Of the Nertſhinſkoi-mountains, 141. Of the Okhotſkian mountains, 143. In the ſteppe of the Petſhora, 145. That flow into the Baikal, 204. That flow into the Baltic, 209. That fall into the White-ſea, 220. Taken up by the Oby, 222. By the Tunguſka, 226. Falling into the Euxine, 236. Of Siberia, very commodious for navigation, 253.
Rock-ſalt, from the mountains, i. 8 1. Richeſt beds of, iii. 321.
Roebuck, the ſtag, and the deer, ii. 456.
Roggervyk, a commodious harbour attempted to be made at, ii. 280.
Roller, as uſed in agriculture, not generally known, iii. 142.
Rollo wreſts Normandy from the kings of France, i. 268.
Romanof, dynaſty of, ſucceeds that of Rurik, ii. 154. By election, 165. 204.
Romans, had very obſcure notions concerning the geography of the northern nations, i. 349.
Roots, wild, uſed by the Tartars, ii. 44.
Rorich, a Norman, became famous in the hiſtory of Holland, i. 268.
Rotala, poſſeſſed by the Ruſſians, i. 269.
Ruble, value of the, in 1797, iii. 487. By the courſe of exchange in 1799, 535. Formerly an imaginary coin, 546. Silver, the oldeſt, 548. Diſtinction between old and new, 557.
Runiana, or rouge, how prepared, ii. 51.
Runic language, ſtill ſpoken on the iſle of Rugen, i. 184.
Rurik, founder of the Ruſſian monarchy, i. 268. Dynaſty of, becomes extinct, 279. ii. 14. 183. Dynaſty of, reigned in Ruſſia from 862 to 1598. ii. 154. 204.

Ruſſia, proper import of that term, i. 1. Monarch of all, that title firſt uſed, 9. Its early ſtrength and conſequence, 17. Fertility of, 65. Principal plains of, 145. Waters of, 151. Company, of London, maintain a chapel, at Cronſtadt, 193. Anciently inhabited by Finns, 257. Slavonian tribes withdrew to, 266. Aborigines of, 267. Becomes formidable to Aſia, 275. Aſtrakhan becomes a province of, 278. The borders of, to the ſouth, enlarged by the Kuban, 280. Incurſions of the Mongoles or Tartars into, 341. 416. Or all the Ruſſias, ii. 278. An unlimited monarchy, 183. Army of, coſts leſs than any other in Europe, 262. Has had a fleet from the beginning of the 18th century, 282. Revenue of, 287. 292. Importance of the Caſpian fiſhery to, iii. 50. Lakes in, yield plenty of fiſh, 75. Quantity of land in, totally unfit for agriculture, 135. Hiſtory of the mines in, 286. Conſequence of the hemp trade to, 467. Aggregate national wealth of, 472. Kazan and Aſtrakhan fall to, 421.

Ruſſian empire, what that term denotes, i. 2. Extent of, 4, 5. Much weakened, 8. Capable of progreſſive aggrandizement, 16. Seas forming the boundaries of the, 151. Nations of the, 255. Troubles ariſing from partitioning the, 273. Bears the yoke of the Tartars for upwards of two hundred years, 276. Preſent extent of, unparalleled in the annals of the world, 279. Bounded by the caucaſean mountains, 280. People from all countries invited to come and ſettle in, 282. Malo-ruſſian Kozaks ſubmit to the, 288. Siberia incorporated with the, 305. Its independence obtained, 307. The laſt remains of Lithuania fall to the, 312. Poliſh Livonia, annexed to the, 318. Livonians, at a very early period tributary to the, 338. Fourſcore diſtinct nations in the, 508. Happily conſtituted for all incitements to induſtry, 194. Many diſtricts, of the fineſt ſoil, not inhabited, 197. Loſes the abilities of a great portion of its inhabitants, 206. No foreſt laws in the, 263. Copper mines of the, 299. Characteriſtics of its inhabitants, ii. 1. Its ſovereigns have ſometimes been elected, 157. Undivided from the time of tzar Ivan Vaſſillievitch, 207. Has no national ſtates, 219. Land forces of the, 235. Sufficiently protected by nature on ſeveral ſides, 239. Had no maritime force prior to Peter the great, 265. Navy of the, 284. Its revenues differently eſtimated, 290. Real amount of, 324. Fertile regions of the, iii. 135. Commerce of the, iii. 429. The Krimea and the Kuban incorporated with the, i. 421. 457. The Tartars belonging to the, 447. The moſt populous diſtrict of the, 525.

Ruſſians, firſt mentioned in the Bertinian annals, i. 269. Mix with the Slavonians, 271. Early conquered the Tſchudes or Finns, 324. Character of the, ii. 2. Collateral branches of, 4. Of ſlavonian origin, 13. Much hardened by climate, education and habits of life, 51. Excellent ſoldiers, 256. Can ſubſiſt on leſs pay than any others, 263. Good ſailors, 283. Good managers of horſes, iii. 113.

Ruſtic occupations, iii. 155.

Ruun, an iſland in the gulf of Riga, i. 183.
Rye-meal, the ſtandard by which the value of all things is regulated, iii. 473.
Rymnikſky, a ſurname given to general Suvarof, ii. 261.
Rymſki tzar, the king of the Romans, ii. 177.
Ryſſaland or Ruſsland, the ancient, ſituation of, i. 269.
Rytſchkof, counſellor, his experiments to aſcertain the number of bees, iii. 275.

S.

Sable, the moſt valuable animal for its ſkin, ii. 426.
Saboika, a machine for catching fiſh, iii. 60.
Saffian, or maroquin, iii. 394.
Safflower, thrives well in ſeveral places, iii. 183.
Saffron, grows wild about the Terek, iii. 182. 188.
Sail-cloth and cordage manufactory, iii. 381.
Sailors, two claſſes of, ii. 273.
Salaries in the hoſpitals of St. Peterſburg, i. 576.
Sales of immoveable property, duty on, ii. 303.
Salmon, of the Duna, the moſt excellent of all Livonia, i. 212.
Salmons and Sighi, abound in the Dvina and the Petſhora, iii. 20. And trouts, remarkable circumſtance concerning, 46.
Salt, a monopoly of the crown, i. 80.
Salt and brandy, monopolies retained by the crown, ii. 214. 309. 311. 373.
Salt, uniformly ſold at one price, ii. 214. Conſumption of, 311. Quantity obtained, 315.
Salt-herbs, no where found in ſuch great quantities, iii. 191.
Salt-lakes, iii. 322.
Salt-pans, attended with great expence, ii. 214.
Saltpetre manufactory, iii. 362.
Salt places, in the empire, i. 80. In the ſteppe of the Dniepr, 146. In the ſteppe of the Don and Volga, 147.
Salt regulation, wiſely framed, iii. 331.
Salts, ineſtimable ſtores of, iii. 319. 320. Importation of, 328.
Salt ſprings, the moſt productive, iii. 324.
Same-ednam, Lapland, i. 327.
Samoderjetz and ſamoderjitza, etymology of, ii. 178.
Samoyedes, hiſtory and origin of the, i. 495. Form parties for the capture of bears and foxes, ii. 437. Characteriſtics of the, ii. 88. Their method of taking ſea dogs, iii. 10. Of preſerving fiſh throughout the year, 49.
Sarepta, a fetid ſulphureous ſpring at, i. 241.
Saſſafras, in the mountains of Kolhyvan, iii. 190.
Savings, may be conſidered as income, ii. 290. 327. 329.
Sauromates, ancient inhabitants of Ruſſia, i. 151.
Saxo Grammaticus mentions the Laplanders, i. 327.
Sayane mountains, i. 134.
Scandinavia and Ruſſia ſtored with finniſh nations, i. 323.

Scandinavians, or Northmanni, founders of the ruſſian ſtate, i. 267.
School, children of ſailors, kept at, ii. 275.
Schlangenberg, mineral-mountains, iii. 205.
Scurvy, not dangerous to the Ruſſians in Novaya Zemlia, iii. 12.
Scythes, uſed in reaping corn, iii. 142. Importation and price of, 423.
Scythians and Sarmates, i. 264.
Sea-cow, deſcription of, iii. 33.
Sea-bear, in troops about the eaſtern iſlands, iii. 27. Their peculiar manners, 28.
Sea-duties or cuſtoms, ii. 300.
Seal, imperial, ii. 229.
Seal, fiſh, a remarkable phænomenon of the Baikal, iii. 76.
Sea-lice, the morſe tormented by, iii. 9.
Sea-lion, methods of taking the, iii. 31.
Seamen, the Eſthonians have always been able, i. 352. Engliſh and Dutch winter in the Frozen-ocean, iii. 4.
Sea-otter, the remarkable manners of the, deſcribed, iii. 36.
Sea-ſalt, iii. 327.
Security and defence, various means of, i. 13.
Seitſaari, an iſland in the gulf of Finland, i. 191.
Selenghinſk, colonies of the Poles, in the circle of, i. 309.
Seleucus Nicanor, attempts an artificial channel from the Caſpian, i. 198. 232.
Semenſkoi kozaks, i. 299.
Semigallia, acquiſition of, i. 281.
Semuſſyr, one of the Kurilly iſlands, i. 165.
Senate, not a repreſentative body, ii. 185. The directing, 342. Its functions, 345.
Senator, that word adopted into the ruſſian language, ii. 344.
Sepulchres, ancient of the Tartars, i. 448.
Serfs, emancipated, ii. 131.
Servants, menial, kept in too great numbers, iii. 198.
Servians, or Serbes, a branch of the illyrian Slavi, i. 309.
Service, military, performed in commutation for taxes, ii. 369.
Seſamum, flouriſhes in the ſouthern provinces, iii. 187.
Seſtrabek, thermometrical obſervations at, i. 36.
Setcha, chief ſeat of the Kozaks, i. 291.
Settlers, who gain their livelihood by trades, ii. 415.
Sevaſtopole, naval force at, ii. 285.
Sevruga, holds the middle ſtation between the beluga and the ſturgeon, iii. 59. Capture of, in the Ural, 69.
Sexes, intercourſe between the, ii. 56.
Sexton, as a church-officer, exempt from the capitation-tax, ii. 115.
Shad, amazing ſhoals of, travel up the Volga, iii. 82.
Shagreen, how prepared in Aſtrakhan, iii. 403.
Shamois and bezoar goats, abound in mount Caucaſus, ii. 460.
Sheep, native ruſſian, ii. 34. The breeding of, iii. 97. The fat-tailed breed, 100. Beſt kinds of 104.
Ships arrived, number of, Britiſh and American, iii. 439. 503. Arrived and ſailed in 1797, 514. Arrived in 1799, 532. Cleared inwards and outwards, 1799, 534.

Shirinki, one of the Kurilly iſlands, i. 160.
Shoomtſhu, one of the Kurilly iſlands, i. 159.
Siberia, united to the Ruſſian empire, i. 3. Muſt have undergone ſome ſurpriſing natural revolution, 26. Weather in, 58. Deſcribed, 61. Of a good ſoil, 65. Amazing quantity of ſalt in, 80. Conquered, 278. 303. Colonies of Bukharians in, 478. ii. 15. An epidemical diſeaſe in, ii. 6. Agriculture in, 26. No fruit-trees thrive in, ii. 31. Incorporated with the Ruſſian empire, i. 305. Only requires a larger population for enabling it to produce the neceſſaries of life in abundance, iii. 138. No bees in, 272. Commerce of, 469. Tartars of, 458.
Siberian kozaks, i. 302.
Sicily taken from the Arabians, i. 268.
Silk, the culture of, iii. 276. Manufactories, 383.
Silk-plants, growing wild, iii. 177.
Silver coins, reſpective value of, iii. 554.
Silver, obtained from all the mines, ii. 313. 315. Purchaſed from abroad, 320.
Simeon the Proud, i. 274.
Sineus and Truvor, brothers of prince Rurik, i. 271.
Singing, the Ruſſians much addicted to, ii. 58.
Sivaſh, or the Putrid-ſea, length and breadth of, i. 177.
Skins, procured by the chace, value of in one year, ii. 450 Of the morſe, iii. 14. Of the ſea-bear, 31.
Slaf, a nobleman, i. 257.
Slavery, bad effects of, i. 364.
Slavi, ancient ſeat of the, i. 265.
Slavnè, nobles, i. 257.
Slavonians, their uſual way of denominating countries, i. 7. The predominant ſtock of the ruſſian empire, i. 263. Form a republic, 270.
Sledge, dogs harneſſed to a, iii. 124.
Slobode-kozaks, origin of the, i. 289.
Slobodes, or large villages, ii. 40.
Slovænians, on the lake Ilmen, i. 269.
Small-pox, ravages of the, i. 546. Not ſo fatal as in ſome other countries, ii. 6. Owing to the vapour-baths, 13. The Poles take no precautions againſt the, ii. 71. Carries off a whole generation at a time among the Kamtſhadales, 89.
Smiths, common, ingenuity of, iii. 312.
Smoaking tobacco, formerly held to be ſinful, iii. 184.
Smolenſk, Severia and Tſchernigof abandoned to the Poles, i. 279.
Smuggling, ſevere Penalties againſt, ii. 308.
Snakes, ſuperſtition concerning, i. 371.
Snow, falls in Novaya-Zemlia, to the height of three or four yards, i. 152. Six or eight feet in Kamtſhatka, i. 174. Reflection from, injurious to the eyes, ii. 89.
Soapboiling, iii. 346.
Soil, ſerviceable to agriculture, but poor, iii. 135.
Soldiers, quartered upon the boors, ii. 98. Diſbanded, 129. Detached corps of, 250. Endure all hardſhips, 256. Allowance of the, 263. Contrive to ſave a little out of their poor pay, 377.

Solombol,

Solombol, an iſland in the Dvina, ii. 281.
Solovief, Ivan, his expedition for the cape of Alaſka, iii. 43.
Solykamſk, thermometrical obſervations at, i. 28.
Soongares, lived formerly about the Balkaſh-lake, i. 430.
Soongaria, warm ſprings in, i. 245.
Songs, ſubjects of the ruſſian, ii. 59.
Sorbs, or Serbs, a primitive denomination, i. 258.
Sovereign, title of the, ii. 174. Power, authority, and prerogatives of, 182. 203. Abſolute, 220.
Souls, a term implying male boors, iii. 210.
Spartacus, rules over the towns of the Kuban, i. 467.
Specie, copper, ii. 317. Quantity of, annually increaſed, iii. 476.
Specification, particular, of products exported, iii. 498.
Spices, ſubſtitutes for, iii. 188.
Spitſbergen, the iſland of, iii. 4.
Squadron, conſiſts of two companies, ii. 254.
Squirrel, ſeveral kinds of, ii. 438.
Stables, or pokleti, ii. 42.
Stamped-paper, annual conſumption of, ii. 302.
Staraya Ladoga, the reſidence of Rurik, i. 271.
Staraya-Roſſa, ſalt-works at, iii. 326.
Staroſt, from the ſlavonian term, ſtarſchina, elder, i. 314.
Statements concerning the fur trade, reſults from, iii. 44.
Stature of the Ruſſians, ii. 17. Of the Finns, 81. Of the Samoyedes, 88.
Statute-law-court, ii. 401. Inferior, 405.
Statutes, few printed, ii. 344.
Stenka Raſin, rebellion of, i. 297.
Stephen, biſhop, converts Permia to the chriſtian faith, i. 325. 342. His barbarous zeal, 348.
Steppe-grounds, or moorlands, iii. 145.
Steppennaia knigi, quotation from the, i. 344.
Steppes, of the empire, i. 74.
Stone, ſeveral kinds of, iii. 318. Cutting, 415.
Stones, hills, and trees, made choice of as memorials of ſome ſtriking tranſaction, i. 372.
Storms of thunder and lightning, i. 54. In Siberia, 59. None in Novaya Zemlia, 152. To which the Caſpian is ſubject, 200. Of the Baikal, 203. Of the Ladoga, 204.
Strabo, the epitomiſer of, 264. 438. Mentions the Uzes, 440.
Strawberries, wild, in the territory of Irkutſk. iii. 225.
Streamlings, a ſpecies of herring, iii. 74.
Strelitzes, ii. 130. Aboliſhed by Peter I. 257.
Sturgeons, ſterlet, &c. plentiful in the Oby, iii. 20. In the Caſpian, 51. The beſt fiſh of the Volga, 59. Of the Ural, 71.
Swetnavlok, i. 94.
Subjects, five claſſes of, ii. 93. Specific obligations and rights in regard of, 208, 209. Condition of the, 360. General welfare of the, 374.
Subtlety, natural, of the Eſthonians, i. 353.
Succeſſion, imperial, ii. 154. Heritable in both ſexes, 205. 223.
Succeſſor, appointed by the ſovereign, ii. 167. 203.
Sugar-works, iii. 365.

Sugdania, the grecian poſſeſſions in the Krim receive the name of, i. 454.
Sulphur, in ſufficient abundance, iii. 319. Works for preparing, 420.
Sulphureous waters, i. 241.
Summer, in many parts, ſhort, i. 55.
Sun, riſing and ſetting of the, in various places, i. 60.
Sunday, the grand court-day, ii. 231.
Superſtitions, of the Livonians, i. 367.
Surnames, honourable, annexed to families, ii. 261.
Swedes, the laſt who founded a ſovereignty in the finniſh parts of the north, i. 326. Settled in Ruſſia, 505.
Swimming, much practiſed by the Eſthonians and Livonians, i. 364.
Swinging, a favourite diverſion, i. 363.
Sword-brethren, order of, i. 316. 389.
Syaſkutan, one of the Kurilly iſlands, i. 162.
Synod, a co-ordinate college with the ſenate, ii. 219. Members of the, never ſign a ſentence of death, ii. 341. The holy directing, 347.
Syriænes, call themſelves Komi, i. 343.

T.

Table-money, allowed to officers when at ſea, ii. 272.
Tacitus, the appellative of the Finns already known to, i. 322. 334.
Taganrok, the foundations of, laid, iii. 455.
Tail of the kirghiſian ſheep, a lump of fat, iii. 101.
Takavangha, iſland, has a volcano, i. 170.
Tallow-chandlery, iii. 347.
Taman, iſland of, i. 106. 176. Aſſigned to the zaporogian kozaks, 294.
Tangut, the king of, reduced to vaſſalage by Tſchinghis-khan, i. 410.
Tar, prepared from the birch-tree, ii. 33.
Tartar ſtock divided into numerous branches, ii. 83. 129.
Tartarian havens on the Caſpian, iii. 445.
Tartars, a diſtinct nation, originally from the turkiſh ſtock, i. 436. Conſtitution of the, 446. Conquer Kief, i. 286. Suppoſed to have firſt introduced coin into Ruſſia, iii. 344.
Taſchkent, has a khan of its own, i. 479.
Tavaſtland, poſſeſſed by the Swedes, i. 326.
Tavlintzians, in the ſummits of Caucaſus, i. 488.
Taurida, one of the moſt mild and fertile regions of the empire, i. 30. Mountains of, 105. Its ancient name reſtored, 280. Principal fiſheries in, iii. 72. Rich in ſheep, 98. Revival of the trade of, 450.
Tavriſcheſky, ſurname given to prince Potemkin, ii. 411.
Tavrof, on the Don, dock-yards at, i. 239.
Taxes, the clergy exempt from, ii. 115. In general not oppreſſive, ii. 373. On the fiſheries in the Caſpian, iii. 52.
Tea, in general uſe, ii. 45.
Teeth, of the morſe, found in amazing quantities, iii. 11. Uſed to the ſame purpoſes as ivory, 14.
Tchetzki,

Teletzkoi, mountain, i. 130. Lake, 222.
Teleutes, or Telengutes, i. 475.
Temperament, of the Ruſſians, ii. 17.
Temperature, in the ſouthern parts of Ruſſia, inequality of the, iii. 246.
Tempeſts, obſervations on, i. 55.
Temple of Yummala, i. 339.
Temudſchin, or Tſchinghis-khan, i. 409. Formed the deſign of penetrating into India, 413.
Tepteri, a tribe compoſed of ſeveral nations, i. 348.
Terechtemirof, the capital of the Kozaks, i. 288.
Terek, the river, climate of the parts about, i. 56. Takes its ſource in the ſnow-mountains of Caucaſus, 234. Baths on the, 242, medicinal ſpring at the, 248. Naphtha ſources on the, 249.
Terek, region about the, fertile in fruits, i. 29.
Terekſkoi-kozaks, i. 298.
Tertials, all placemen paid by, ii. 274.
Teutonic nations anciently had no other laws than old traditionary maxims, ii. 199.
Teutonic order, knight of the, defeated by Alexander Nefsky, i. 276. Withſtands the power of Ivan, 278.
Theatricals, chriſtian, at Riga, i. 390.
Thibet and Bukharia, the buffalo a domeſtic animal in, iii. 96.
Thieving, Livonians and Eſthonians very dexterous at, i. 365. The Kamtſhadale dogs artful in, iii. 126.
Threſhing, the ordinary flail uſed in, iii. 143.
Thulè, rather Shetland than Iceland, i. 350.
Thunder, never obſerved in Behring's iſland, i. 157.
Thurſday, ſuperſtitious obſervance of, i. 367.
Time and abilitities, much waſted in Ruſſia, iii. 202.
Title, imperial, at length, ii. 179.
Titles, not to be had for money in Ruſſia, ii. 213. Of the Imperial family, 225. More conferred than formerly, 345.
Timur, or Tamerlan, prince of Keſch, near Samarkand, i. 422.
Tmutarakan, Miſtiſlaf, prince of, i. 285. The famous principality of, 469. 484.
Tobacco, abundant in the Ukraine, ii. 31. Little uſed, 46. Profitably cultivated, iii. 184. Manufacture, 379.
Tobol, river, takes its riſe in the country of the Kirghiſes, i. 223.
Tobolſkian Tartars, i. 461.
Toleration, religious, unbounded, i. 476.
Tollenſians, named after the river Tollenſea, i. 258.
Tomſkian-Tartars, i. 461.
Torgots, ſettle on the Volga, i. 432. Emigrate to the Chineſe, 433.
Torropil, a muſical inſtrument, i. 363.
Torture, every ſpecies of, aboliſhed, ii. 407.
Town-houſe, every town has its, ii. 409.
Towns, good living in, ii. 374.
Trade, Ruſſians much inclined to, ii. 18.
Trades, carried on by the Ruſſians, ii. 21.
Tradeſmen, profits of, in country towns, ii. 382.

Train-oil, manufactory of, iii. 342.
Travellers, ſome erroneous judgments of, accounted for, ii. 388.
Travelling performed with great celerity in Ruſſia, iii. 113.
Treaſurer, imperial, office of, ii. 346.
Treatment, medical, of the plica polonica, ii. 76.
Trebiſond, captured by the Kozaks, i. 287.
Trees, a great diverſity of, i. 69. Growing on the Ural mountains, 117. On the Altay mountains, 134. On the Sayane mountains, 136. On the Baikal mountains, 140. On the Nertſhinſkoi mountains, 141. Of the ſteppe of Petſhora, 145. Of the ſteppe of the Dnieper, 146. In the peninſula of Kamtſhatka, 155. On the iſle of Hochland, or Hohgland, 189. On the ſhores of the Don, 237. None at all on Spitſbergen and Novaya-Zemlia, iii. 12. Foreſt, ii. 32.
Tribes, had their particular denomination from ſome river, town, or diſtrict, i. 258.
Tribute, paid in money, ii. 321. Or taxes on the mines, iii. 304.
Troops, irregular, ii. 236.
Truchmenians, parent ſtock of the, i. 480.
Tchan, a lake of Siberia, prolific in fiſh, iii. 77.
Tſcherdyn, an ancient town on the Kolva, i. 341.
Tſcheremiſſes, i. 345.
Tſchefſchengians, or Mikſcheſſians, i. 487.
Tſcherkeſſians, or Circaſſians, i. 483.
Tſchuchontzi, or Maimiſti, the Finns, i. 334.
Tſchukiſches, in the north-eaſtern point of Siberia, i. 502.
Tſchukiſchi, greatly addicted to the whale-fiſhery, iii. 25.
Tſchukiſchi-nos, known earlier than Kamtſhatka, i. 500.
Tſchulymſkian Tartars, i. 462.
Tſchuvaſches, a very numerous nation, i. 345.
Tſhany, lake, abounds in fiſh, i. 209.
Tſhariſkoi mountains, i. 131.
Tſhernoſoſoniye, or boors of the black plough, ii. 139.
Tſhikota, one of the Kurilly iſlands, i. 167.
Tſhirinkutan, one of the Kurilly iſlands, i. 162.
Tſhirpo Oi, one of the Kurilly iſlands, i. 165.
Tula, great manufactory of fire-arms at, iii. 423.
Tunguſes, account of the, i. 490. 492. Addict themſelves to agriculture, ii. 87. 387.
Tunguſka, the upper, middle, and lower, i. 225.
Turalinzes, the, i. 460.
Turan, the khanate of, i. 458.
Turf-moors and kennel-coal, iii. 257. 319.
Turkiſh war, ſtate of the army during the laſt, ii. 244. Priſoners offer to ſerve in the galley-fleet, ii. 274.
Turkiſtan, i. 479. Turkiſh tribes dwelt in, i. 259.
Turks, territory gained from the, in 1774, i. 3. Fall upon Ruſſia, 278. The firſt-known mother-country of the, i. 43[illegible]. Ottoman, 506.
Turneps, a ſubſtitute for bread, in Finland, iii. 223.
Turpentine, drawn from the larch-tree, iii. 254.
Tutor, domeſtic, common ſalary of a, in Livonia and Eſthonia, ii. 381.
Tyerſaari, an iſland of the gulf of Finland, i. 190.

Tzar, title of, when firſt adopted, ii. 175. 223.
Tzarevitch, ſon of the tzar, ii. 223.
Tzaritzin, its warm and genial climate, i. 19. A medicinal well near, 246.
Tzarſtvo, kingdom, ii. 176.
Tzeſarevitch, ſon of the cæſar or emperor, ii. 223.

V.

Valday mountains, i. 98. Produced by violent inundations, 103. The neigbourhood of, inhabited by Iſhorki, 334.
Valdimar III. king of Denmark, ſells Eſthonia to the teutonic knights, i. 316.
Vallies, adjoining the ural chain of mountains, i. 117.
Vallinka, a diminutive pair of bagpipes, ii. 60.
Vallipea, ruins of an ancient caſtle in Dago, i. 187.
Vapour-bath, good againſt the plica-polonica, ii. 77. Much uſed by the Lettes, 80.
Varages, get the command of the Ruſſians, ii. 14.
Varagian Roſſi, the Ruſſians received their appellation from the, i. 259. Varagians, Varingians, or Nortmanni, 268.
Varnabi, formerly dwelt near the Varnof, i. 258.
Vaſemſky, prince, acted as high treaſurer, ii. 287.
Vaſſalage, whether it would be proper to aboliſh, ii. 148. Cripples the ſpirit of induſtry, iii. 208.
Vaſſal-boors, ii. 133. Pay taxes and furniſh recruits, 369.
Vaſſals, emancipated, take a family-name, i. 357. Strongly attached to their lords, when kind and humane, 366. Employed at the mines, iii. 314.
Vataga, a particular ſtation for fiſhing on the Caſpian, iii. 51.
Vaygats-ſtraights, i. 152.
Vegetables of a ſaline ſoil, fattening, iii. 100. For the uſe of manufactures and commerce, iii. 172. Culinary, 222.
Vehicles, light and commodious, ii. 43.
Veitzgants, the patron deity of betrothed perſons, i. 371.
Velikaiya knæghinya, great princeſs, ii. 224.
Velikie kniæs, great prince, generally tranſlated grand duke, ii. 174. 224.
Velitcheſtvo, means majeſty in ruſs, ii. 182.
Vendi, the Lithuanians nearly related to the, i. 310.
Venereal diſorders, particularly dangerous, ii. 6. In Poland, 72.
Venetians, trade to the Krim and to Taman, i. 455.
Verchneturinſkoy-ſavode, an incruſtaceous ſpring near, i. 251.
Verchotourſkian Tartars, i. 463.
Vermin, houſes much peſtered with, ii. 43.
Verſt, length of the ruſſian, iii 569.
Verviannoye-ſalo, iii. 14.
Veſſels made of leather, iii. 412.
Veſſenians, in the diſtrict of Novgorod, i. 270.
Veſt, or ſaraphan, ii. 48.
Victuals, ſimple preparation of, ii. 44.

Villages, or derevni, ii. 40. Generally synonimous with landed eſtates, ii. 111. Large in Eſthonia, i. 356. Over Ruſſia, iii. 154.
Vine, culture of the, iii. 233. At Aſtrakhan, 225. Grows wild on the Terek, 238.
Vinegar-making, iii. 360.
Virginity, tokens of, produced, ii. 58.
Virtues, medicinal, of the baths on the Terek, i. 243. Of other mineral waters, 248.
Viſbey, a hanſe-town, on the iſle of Gothland, iii. 441.
Viſhney-Volotſhok, i. 101. Grand canal of, 251.
Vitality, of the Ruſſians, ii. 5.
Vitriolic waters, i. 246.
Vitriol-manufactories, iii. 364.
Vladimir the great, introduced chriſtianity into Ruſſia, i. 273. ii. 14. St. firſt aſſumes the title of tzar, 175. Order of, 233.
Vladimir, the grand prince of, does homage to the khan of Kaptſchak, i. 415.
Vobrofskoi mountains, i. 128.
Vogules, a brave and warlike nation, i. 343. Sable-trap of the, ii. 428. ii. 129. Pay their tribute in a ſtated number of elk-ſkins, 321.
Voiſkovoi ataman, the commander at war, i. 299.
Voivodeſhips, in Poland, obtained by Catharine II. i. 281.
Volcanoes in Kamtſhatka, i. 144. 155. On Tatavanga and Kanaga, 172.
Volga, and Ural, ſteppe of the, i. 147. Volga, one of the moſt famous rivers of Europe, 231. Growing ſhallower from time to time, 232. Naphtha ſources on the, 250. Belugas of prodigious ſize in, iii. 55. Teems with fiſh, 57. Herring, very plentiful in the, 81. Connects the Baltic with the Caſpian, 471.
Volgaic Kozaks, i. 298.
Volkof, river, the only outlet to the Ilmen lake, i. 208.
Volok, ſignification of that word, i. 252.
Voracity of the Kamtſhadale dogs, iii. 127.
Vorms, length and breadth of the iſle of, i. 188.
Voronetz, river, united by a canal with the Okka, i. 238.
Voſneſenſk, the vine-ſtock ſucceeds admirably in, iii. 243.
Votiaks, or Votes, ſpeak the ſame language with the Finns, i. 344.
Voyages of diſcovery, ſet on foot by Catharine II. i. 283. By England, ii. 470.
Voytz, hills, i. 91.
Voytzer, gold mine, firſt opened, iii. 293. 296.
Vuiſotſcheſtvo, highneſs, derivation of, ii. 226.
Vyborg, moſtly inhabited by Finns, i. 335. A good harbour might be made in the bay of, ii. 111. Expence of the government of, 330. And Fredericksham, exports of, ii. 436.
Vyg, lake, i. 91.

U.

Ubinſkoi mountains, i. 128.
Uexkull, chriſtenings numerous at, i. 387.
Ugrians, or Hungarians, i. 327.
Ukaſes, ſeveral kinds of, ii. 212.
Ukraine, ſignification of that term, i. 2. Re-united with Ruſſia, 279. The native ſeat of the Malo-Ruſſians, 284. Woad grows wild in the, ii. 31. Formerly choſe its own hetman, 195. Poliſh nobility acquired eſtates in the, 216. Uncommonly abundant in cattle, iii. 88. Huſbandry in the, 159. Count Razumofsky's eſtates in the, 211. Groves about the houſes in, 263.
Uloſhenie, the old law of the land, ii. 97. 134. 163. 209. 357. iii. 266, 267.
Unalaſhka, a ſmoking mountain on, i. 172.
Ungannia, the Lettes mentioned by the chronicles as being in, i. 320.
Ungres and Bulgarians, drive the Huns to the farther ſide of the Danube, i. 265. Come into the Krim, 454.
Uniform, each government has its peculiar, ii. 407.
Ural mountains, divide the empire, i. 57. 60. Deſcribed, 111. Divided into three branches, 113. Warm ſprings in the, 246.
Ural, river, when freed from ice, i. 56. Formerly called the Yaik, 231. 300. Productive fiſhery on the, ii. 216. 327. iii. 65.
Uralſkoi, formerly the Yaikſkoi, kozaks, i. 300.
Uraltau, the mines there, ii. 217.
Urup, one of the Kurilly iſlands, i. 165.
Uſes, various to which the whale is applied, iii. 26.
Uſnavolok, peninſula, i. 89.
Uſſaſſyr, one of the Kurilly iſlands, i. 164.
Uſtiug Veliki, experiments on the mercury at, i. 28.
Uteníils, culinary, extremely few, ii. 43.
Utſchiugs, or wears for catching fiſh, iii. 60. Signification of the term, 63. Contrived by the aſtrakhan tartars, 83.
Uzes, called alſo Kumanes or Polovtzes, i. 440.

W.

Wall, an ancient, in Livonia, i. 375.
Walnut-trees, in great abundance, iii. 232.
War, college of, ii. 350.
Wards, ſuperior court of, ii. 403. Inferior, 405.
Warm-baths, on the eaſt ſide of the lake Baikal, ii. 87.
Waſte at court, exceſſive, ii. 233.
Waſte-grounds, i. 78.
Water, excellent, in Behring's iſland, i. 157. Pure, light and clear, of the river Neva, 218.
Water-melons, cultivated, ii. 32.

Waters,

Waters, numerous about the Ural, i. 118. The Altay mountains exuberant in, 134. Medicinal, 241. Vitriolic, 246. Bituminous, 249. Incruſtaceous, 250. Arctic breed the largeſt ſea animals, iii. 3. Mineral, 319.
Wattles, houſes built of, in the Ukraine, iii. 263.
Wax, great quantity produced, iii. 271. Bleaching, 413.
Wealth of a country, what conſtitutes the, iii. 197.
Weather, average of, at St. Peterſburg, i. 37.
Weber, gives account of the firſt known inundation of the Neva, i. 49.
Weights, uſed in the ruſſian empire, iii. 565. Foreign, compared with the ruſſian, 570, 571.
Whales, in the frozen ocean, iii. 3. In extraordinary numbers about the ſhores of Kamtſhatka, 24.
Whirlpool, ſuppoſed to be in the Caſpian, i. 197. Whirlpools in the lower Tunguſka, 226.
Whiſkers, worn by the Poles, ii. 69.
White-plough, boors of the, iii. 137.
White-Ruſſia, or Vladimir, i. 274.
White-ſea, or bay of Archangel, i. 151. Rivers that fall into the, i. 220.
Widows and mothers, laws favourable to, ii. 57.
Wife, more than one, rarely taken by the Tartars, ii. 85.
Wild boar, hunted in winter by the Kozaks, ii. 463.
Wild fowl, in great abundance, ii. 464.
Wild horſes, in Ruſſia, iii. 114.
Willoughby, Sir Hugh, goes out on diſcovery, ii. 470. iii. 431.
Wind, heavy gales of, i. 48. 55. 59.
Wine, made in ſome parts, ii. 31. 45.
Wine, &c. importation of, in 1794, iii. 233.
Wire-mills, iii. 422.
Winter, generally ſevere, i. 55. In the iſlands of the eaſtern ocean, i. 173. The propereſt ſeaſon for hunting the beaver, ii. 449.
Witches, malign influence of, ii. 68.
Wizzards of the ſtream, ii. 69.
Woad, grows wild in Ruſſia and Siberia, ii. 31. iii. 181.
Women, married, ii. 4. National dreſs of the, 48.
Wood, immenſe conſumption of, ii. 278. iii. 252. Waſte of, almoſt incredible, 256. Scarcity of, already felt, 258. Continually increaſing, 267.
Wood-pecker, a great foe to bee-hives, iii. 275.
Woods, the Ural mountains amply furniſhed with, i. 117. Scarce in the ſteppe of Petſhora, 145. None beyond the ſource of the Anadyr, 229.
Wool, ii. 34. Coarſe and harſh, borne by the ordinary ruſſian ſheep, iii. 97. Ruſſian exported, 103. Proper for weaving cloth, 105.
Words, mongolian, in the tartar language, i. 445.
Workmen, a want of, eaſily ſupplied, iii. 38.
Workmen, at the mines, iii. 309. Voluntary, 311.
Worms, diſeaſes from, common in Lithuania, ii. 9.
Worſhip, outward forms of, ſtrictly obſerved, ii. 76.
Wreſtling and boxing, awkwardly performed, ii. 81.
Writing, more in Ruſſia than elſewhere, ii. 318.

Yabliſhna,

Y.

Yaflifcha, warm springs on the, i. 243.
Yabanni-arbor, or the apple-mountain, i. 142.
Yakort, anecdote of an officer of the, ii. 255.
Yamfelik, tax on the fowes in, ii. 323.
Yaghello, unites Lithuania to Poland, i. 311.
Yaik, river, now called the Ural, i. 435.
Yak, the Oby is called by the Ofiaks, ii. 266.
Yakovlief, a master-smelter, visits copper island, i. 157.
Yakfartes, the Syr Daria, falling into the Aral, i. 199.
Yakuter, submit to Ruffia, i. 276. Their method of preserving fish, iii. 49.
Yam, a place for post horses, ii. 139.
Yamblak, one of the Aleutsky islands, i. 170.
Yamburg, cloth manufactory at, iii. 385.
Yamfchtchiki, boors that are obliged to furnish post horses, ii. 137, 139.
Yana, the river, takes its origin out of a little lake, i. 227.
Yarinskian Tartars, i. 463.
Yaroflaf, the great, drew up the novgorodian statutes, ii. 337. The second, i. 274.
Yaferbnaiye kofyani, ii. 141.
Yafak, or the 11 mats in law, ii. 124.
Yaffaiers, inhabitants of the Kuban, i. 468. 483.
Yam, new, a feast then kept, ii. 69.
Yedifchkul, a hive of the Nogays, i. 466.
Yemba, or Emba, the most eastward of the rivers that run into the Caspian, i. 440. Not risen to full, iii. 71.
Yenikalyeh in the Krimea, i. 280.
Yeniffey, the source of the river, i. 114. And Lena, steppe of the, 130. Composed at first of two rivers, the Kamfara and the Velkeni, 124. Offiaks of the, 493. iii. 5. Its shores described, 136.
Yeomanry, or country people, ii. 152.
Yepanfa-khan, resides at Urdubik, i. 461.
Yermak Timofeyef, conquers Siberia, i. 323. Defeats Kutschum, khan of Turan, 421.
Yevo imperatorfkoye vnuifeftchefivo, his imperial highness, ii. 226.
Yeffukai, the father of Tschinghis, i. 441.
Yekfeida, now Uexkull, finished, i. 382.
Yufts and leather, exported in 1793, iii. 94. The chief product of the Ukraine, iii. 387. Exportation of, in 1674, 432. Trade in, 437.
Yukaghirs, Yurales, &c. i. 498. At the time of their subjection had never seen a horse, 500.
Yuma, the name of the Supreme Being with the Tscheremisses, i. 345.
Yummal, the one true God worshipped under the name of, i. 368. 378.
Yummala, the famous idol, i. 339. 340. 344.

Yumay, the name of the deity with the Votiaks, i. 344.
Yurairzkoi shore, between the Yeniſſey and the Oby, i. 225.
Yurief, Dorpat ſo called by the Ruſſians, i. 337.
Yury, or George, i. 274.

Z.

Za, at, behind, beyond, i. 291.
Zadunaiſkii, tranſlanubium, the ſurname of count Romantzof, ii. 180. 267.
Zaporegian kozaks, i. 283. Origin of the, 290. Etymology of the appellation, 291. Proved faithleſs in the Turkiſh war, 293. Their ſtate broke up, 294. Incorporated again in New Servia, 308. Had a permanent right to their territory and peculiar form of government, ii. 195.
Zdarowa, or *Zdarovui*, the uſual term of ſalutation, ii. 52.
Zeemnikis, a kind of dii penates, i. 370.
Zenden, khan of the Derbetans, i. 132.
Zeren, *Galdan*, khan of the Soongares, i. 430.
Zicheſi, fight bravely for their liberty, i. 469. 483. 487.
Zimmerman, Dr. of Hanover, i. 567.
Zinc and quickſilver, conſiderable importation of, iii. 318.
Zinober, importation of, iii. 318.
Zinzendorf, count, finds converts in Livonia, i. 402.
Zolokozel, or craw-boat, ii. 460.
Zones, experiments in regard to, i. 10.
Zones, particles propelled to, ii. 201. 204.
Zuchabaita, a tradition, with Chuna, i. 302. A vitriolic ſpring near, i. 247. iii. 463.

FINIS.

ERRATA.

Vol. I. page 28. line 7 of the note, for Ufting Veliki lies 15½ degrees, &c. read Ufting Veliki lies 14 minutes more to the North than St Petersburgh according to the Academic, and only 18 min. 38 ſeconds according to M. Storch.
Page 152. line 18. for 428,500 read 445,600.
Page 196. line 4 of the note, for *Poland* read *Pruſſia*.
Vol. II. page 269. line 10. for the Dnieſtr, not far from Bender, read the *Dnieſtr*, not, &c.
Page 551. for overplus of births, males, 25,813 read 25,432; and the total 451,516.
Page 552. line penult. for 21,1 6,620 read 21,146,620.
Vol. III. p. 184. line penult. of the note, for 1793 read 1783.

Printed by G. Woodfall, No. 22, Paternoſter-Row, London.

00027522

Digitized with financial assistance from the
Government of Maharashtra
on 26 June, 2018